SERVICE MANUAL

AE-2 CHASSIS

MODEL	COMMANDER	DEST.	CHASSIS NO.
KV-H2521A	RM-830	Italian	SCC-F18M-A
KV-H2521B	RM-830	French	SCC-F32P-A
KV-H2521D	RM-830	AEP	SCC-F26M-A
KV-H2523E	RM-830	Spanish	SCC-F33M-A

MICROFILM

TRINITRON® COLOR TV

SONY®

ITEM MODEL	Television system	Stereo system	Channnel coverage	Color system
Italian	B/G/H, D/K	GERMAN Stereo	ITALIA VHF:A-H2 (C) UHF:21-69 PAL B/G/H VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 CABLE TV (2):S01-S05, M1-M10, U1-U10 D/K VHF:R01-R12 UHF:R21-R69	PAL, SECAM NTSC 4.43, NTSC 3.58 (VIDEO IN)
French	B/G/H, D/K L, I	GERMAN Stereo	L VHF:F02-F10 UHF:F21-F60 CABLE:B-Q B/G/H VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 CABLE TV (2):S01-S05, M1-M10, U1-U10 ITALIA VHF:A-H2 (C) UHF:21-69 D/K VHF:R01-R12 UHF:R21-R69 I UHF:B21-B69	PAL, SECAM NTSC 4.43, NTSC 3.58 (VIDEO IN)
AEP	B/G/H, D/K	GERMAN Stereo	PAL B/G/H VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 CABLE TV (2):S01-S05, M1-M10, U1-U10 ITALIA VHF:A-H2 (C) UHF:21-69 D/K VHF:R01-R12 UHF:R21-R69	PAL, SECAM NTSC 4.43, NTSC 3.58 (VIDEO IN)
Spanish	B/G/H, D/K	GERMAN/NICAM Stereo	PAL B/G VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 CABLE TV (2):S01-S05, M1-M10, U1-U10 ITALIA VHF:A-H2 (C) UHF:21-69 D/K VHF:R01-R12 UHF:R21-R69	PAL, SECAM NTSC 4.43, NTSC 3.58 (VIDEO IN)

MODEL	Italian	French	AEP	Spanish
Power consumption	96 Wh	108 Wh	108 Wh	107 Wh

Picture tube	Hi-Black Trinitron Approx. 63 cm (Approx. 59 cm picture measured diagonally) 110 ° -deflection

【REAR】

-⊕ 1 21-pin Euro connector
(CENELEC standard)
Inputs for audio and video signals
- inputs for RGB
- outputs of TV video and audio signals

⊖→ 2/-⊕ 2 21-pin Euro connector
- inputs for audio and video signals
- inputs for S video
- outputs for audio and video signals (selectable)

-⊕ 2, S video input
-⊙ Audio inputs (L, R) -phono jacks
⊕→ S video output - 4 pin DIN
⊙→ Audio outputs - phono jacks
⊙→ Audio outputs (Variable) - phono jacks

【FRONT】

-⊙ 3 Video input-phono jack
-⊙ Audio input-phono jacks
-⊕ 3 S video input 4-pin DIN
∩ Headphone jack : Stereo minijack

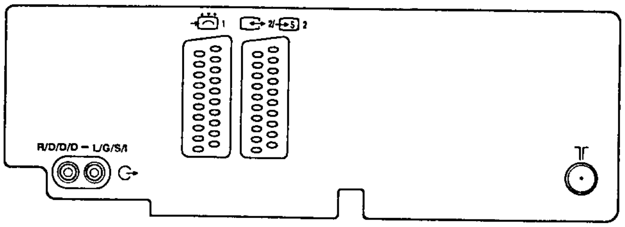
Sound output	2×15 (RMS) 2×30 (Music)
Power reqirement	220-240 V
Dimensions	Approx. 575 × 488 × 487 mm
Weight	Approx.37 kg
Supplied accessories	RM-830 Remote Commander (1) IEC designation R 6 batteries (2)
Other features	NICAM, FASTTEXT

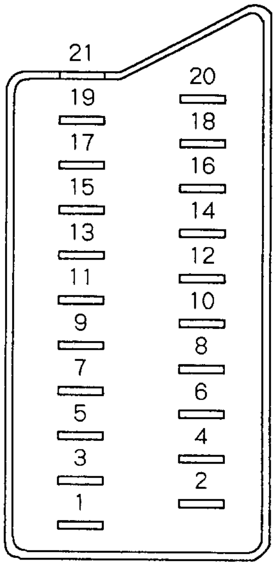
【RM-830】

Remote control system	infrared control
Power requirements	3 V dc 2 batteries IEC designation R 6 (size AA)
Dimentions	Approx.65×225×21 mm (w/h/d)
Weight	Approx.157g (Not including Batteries)

Design and specifications are subject to change without notice.

21 pin connector (⊝1 ⊝2/⊝4)





Pin No	1	2	Signal	Signal level
1	○	○	Audio output B (right)	Standard level : 0.5Vrms Output impedance : Less than 1kohm *
2	○	○	Audio input B (right)	Standard level : 0.5Vrms Input impedance : More than 10kohms *
3	○	○	Audio output A (left)	Standard level : 0.5Vrms Output impedance : Less than 1kohm *
4	○	○	Ground (audio)	
5	○	○	Ground (blue)	
6	○	○	Audio input A (left)	Standard level : 0.5Vrms Input impedance : More than 10kohms *
7	○	●	Blue input	0.7 ± 3dB, 75ohms, positive
8	○	○	Function select (AV control)	High state (9.5 – 12V) : Part mode Low state (0 – 2V) : TV mode Input impedance : More than 10kohms Input capacitance : Less than 2nF
9	○	○	Ground (green)	
10	○	○	Open	
11	○	●	Green	Green signal : 0.7V ± 3dB, 75ohms, positive
12	○	○	Open	
13	○	○	Ground (red)	
14	○	○	Ground (blanking)	
15	○	–	Red input	0.7V ± 3dB, 75ohms, positive
	–	○	(S signal) croma input	0.3V ± 3dB, 75ohms, positive
16	○	●	Blanking input (Ys signal)	High state (1 – 3V) Low state (0 – 0.4V) Input impedance : 75ohms
17	○	○	Ground (video output)	
18	○	○	Ground (video input)	
19	○	○	Video output	1V ± 3dB, 75ohms, positive Sync : 0.3V (– 3, + 10dB)
20	○	–	Video input	1V ± 3dB, 75ohms, positive Sync : 0.3V (– 3, + 10dB)
	–	○	Video Input/Y (S signal)	1V ± 3dB, 75ohms, positive Sync : 0.3V (– 3, + 10dB)
21	○	○	Common ground (plug, shield)	

○ Connected ●unconnected (open) * at 20Hz – 20kHz

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ACCESSORY (MDR-IF310)

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CAUTION

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVING THE ANODE.

WARNING !!

AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE TO AVOID POSSIBLE SHOCK HAZARD, BECAUSE OF LIVE CHASSIS.
THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL FOR SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION

APRES AVOIR DECONNECTE LE CAP DE L'ANODE, COURT-CIRCUITER L'ANODE DU TUBE CATHODIQUE ET CELUI DE L'ANODE DU CAP AU CHASSIS METALLIQUE DE L'APPAREIL, OU AU COUCHE DE CARBONE PEINTE SUR LE TUBE CATHODIQUE OU AU BLINDAGE DU TUBE CATHODIQUE.

ATTENTION!!

AFIN D'EVITER TOUT RISQUE D'ELECTROCUTION PROVENANT D'UN CHÂSSIS SOUS TENSION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISÉ LORS DE TOUT DÉPANNAGE.
LE CHÂSSIS DE CE RÉCEPTEUR EST DIRECTEMENT RACCORDÉ À L'ALIMENTATION SECTEUR.

ATTENTION AUX COMPOSANTS RELATIFS À LA SÉCURITÉ!!

LES COMPOSANTS IDENTIFIÈS PAR UNE TRAME ET PAR UNE MARQUE ⚠ SUR LES SCHÉMAS DE PRINCIPE, LES VUES EXPLOSÉES ET LES LISTES DE PIECES SONT D'UNE IMPORTANCE CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT. NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMÉRO DE PIÈCE EST INDIQUÉ DANS LE PRÉSENT MANUEL OU DANS DES SUPPLÉMENTS PUBLIÉS PAR SONY.

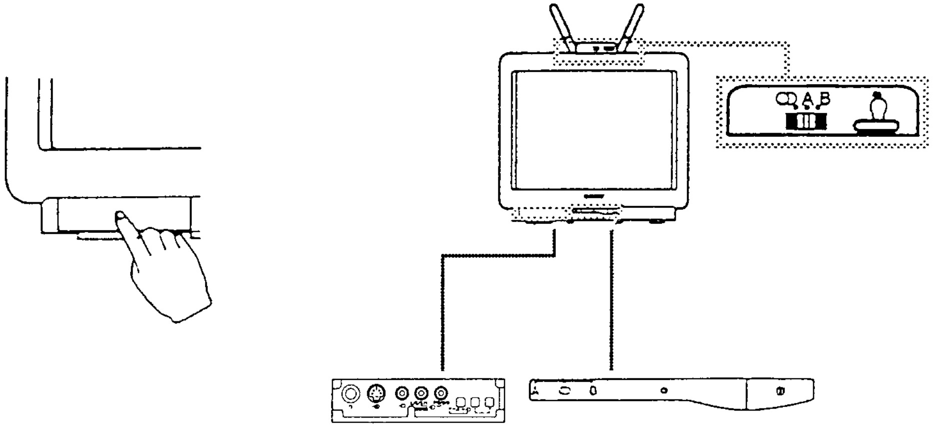
SECTION 1
GENERAL

The operating instructions mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remein as in the manual. (KV-H2521D/KV-H2921D)

1-1. OVERVIEW

This section briefly describes the buttons and controls on the TV set and on the Remote Commander. For more information, refer to the pages given next to each description.

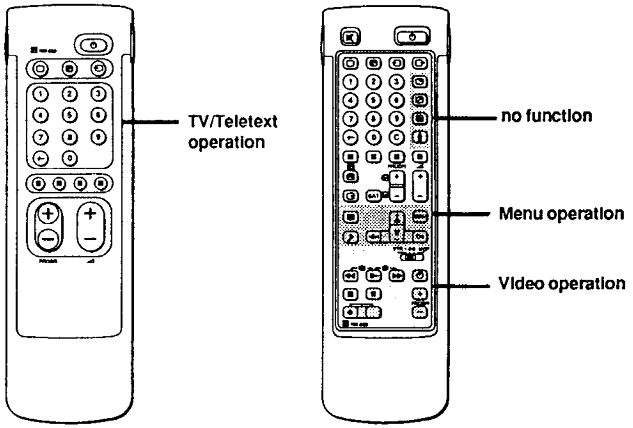
TV set-front



Symbol	Name	Refer to page
⏼	Main power switch	44
⏻	Standby indicator	44
A-ↀ-B	Stereo A/B indicators	46
∩	Headphones jack	52
-Ⓢ, -⊖, -⊙,	Input jacks (S video/video/audio)	52
P→⊿→⊖	Function selector (Programme/volume/input)	45
-/+	Adjustment buttons for function selector	45
∩	Transmitter power switch	48
ↀ-A-B	Audio mode selector	48

Remote Commander RM-830

A)Note
The SAT button does not operate with this TV.



B) Simple side

C) Full-Function side

TV/Teletext operation

Symbol	Name	Refer to page
🔇	Muting on/off button	45
⏻	Standby button	44
○	TV power on/TV mode selector button	44
⊜	Teletext button	45
-⊖	Input mode selector	45
⊖→	Output mode selector	54
1,2,3,4,5,6, 7,8,9,and 0	Number buttons	44
-/--	Double-digit entering button	44
C	Direct channel entering button	41
⊿+/–	Volume control button	44
PROGR+/–	Programme selectors	44
⊡⊡	Teletext page access buttons	48
▬	Picture adjustment button	46
♪	Sound adjustment button	46
⊕	On-screen display button	45
⊕	Teletext hold button	48
◎	Time display button	45
■■■■	Fastext TOP-text buttons	48

Menu operation

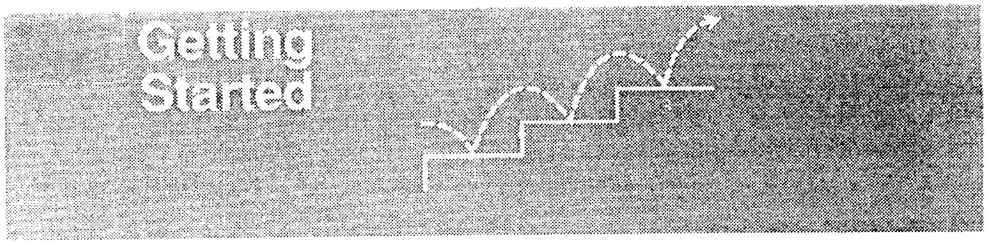
Symbol	Name	Refer to page
MENU	Menu on/off button	38
△+/▽–	Select buttons	38
OK	OK (confirming) button	38
⬅	Back button	38

Video operation

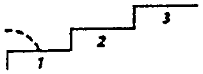
Symbol	Name	Refer to page
VTR1/2/3, MDP	Video equipment selector	55
◀ ▶ ▶▶ ■ ❙❙ ● ⏻ PROGR +/–	Video equipment operation buttons	55

Note:
The buttons ◔ , ↑ ,⊖,⊖ do not operate with this TV.

Getting Started



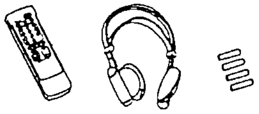
1-2. STEP 1 PREPARATION



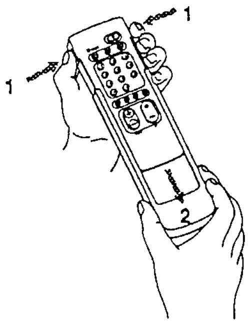
❶ Check the supplied accessories

When you've taken everything out of the carton, check that you have these itrms :

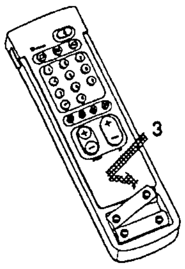
- Remote Commander RM-830
- MDR-IF310 Headphones
- Four IEC designation R6 batteries



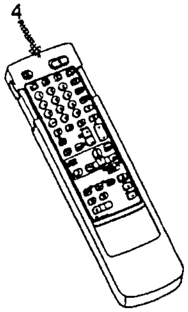
❷ Insert the batteries into the Remote Commander



Remove the cover.

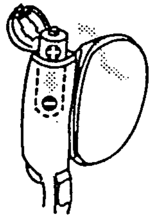


Check the correct polarities.



Refit the outside cover making sure tjat the Full-Function side is visible to use the menu in Step 3.

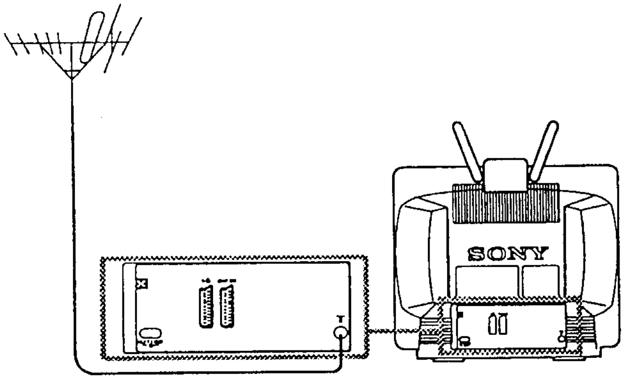
❸ Insert the batterles Into the Headphones



Open both battery compartments' lids and insert supplied R6 batteries checking for the correct polarity.

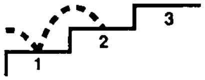
1-3. STEP 2 CONNECTION

❶ Connect the aerial



Fit an IEC aerial connector attached to 75-ohm coaxial cable (not supplied) to the ╥ socket at the rear of the TV.

1-4. STEP 3 TUNING IN TO TV STATIONS

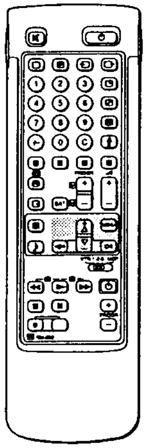


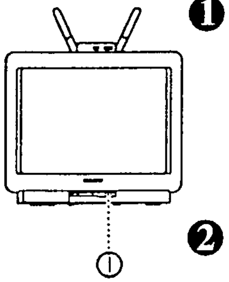
Once you have set up the TV, you can choose the language of the menu. Then you should preset the channels (up to 100 channels) by choosing either the automatic or manual method.

The automatic method is easier if you want to preset all receivable channels at once. Use the manuel method if you only have a few channels and want to preset channels one by one. The manual method is also convenient for allocating programme numbers to various video input sources.

Before you begin

- Check that the Full-Function side of the Remote Commander is visible.
- Locate Menu operation buttons on the Remote Commander. They are shaded in the illustration at the left.





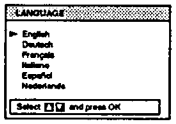
❶ Choose a language

1 Depress ①on the TV.
The TV will switch on. If the standby indicator on the TV is lit, press ○ or a number button on the Remote Commander.

2 Press MENU.
The LANGUAGE menu appears (see Fig. 1).

3 Select the language you want with △+ or ▽– and press OK.

MENU

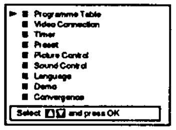


LANGUAGE
► English
Deutsch
Français
Italiano
Español
Nederlands
Select △▽ and press OK

Fig. 1.

❷ Display the Menu

Press the ← button.
The main menu appears (see Fig.2).
Now, choose one of the following methods
»Preset Channels automatically«
or
»Preset Channels manually«.



► ■ Programme Table
■ Video Connection
■ Timer
■ Preset
■ Picture Control
■ Sound Control
■ Language
■ Demo
■ Convergence
Select △▽ and press OK

Fig. 2.

To go back to main menu
Keep pressing ←.

To go back to the normal TV picture
Press MENU.

Note on the DEMO function
If you choose »Demo« on the main menu, you can see a sequential demonstration on the menu functions.

With this method, you can preset all receivable channels at once.

To stop automatic channel presetting
Press ← on the Remote Commander.

Notes
- After presetting the channels automatically, you can check which channels are stored on which programme positions. For details, see »Using the Programme Table« on page 47.
- You can exchange the programme positions to have them appear on screen in the order you like. For details, see »Exchanging Programme Positions« on page 41

❸ Preset channels automatically

1 Select »Preset« with △+ or ▽– and press OK.
The PRESET menu appears. (See Fig.3.)

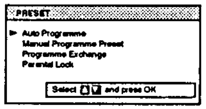
2 Select »Auto Programme« with △+ or ▽– and press OK.
The AUTO PROGRAMME menu appears. (See Fig.4.)

3 Press OK.
Press OK receatedly until the first element of the "PROG" number is highlighted.

4 Select the programme (number button) from which you want to start presetting. Select the first element of the double-digit number with △+ or ▽– or the number buttons (e.g. For »04«, select »0« here) and press OK.
The second element of »PROG« will be highlighted.

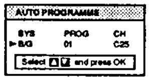
5 Select the second element of the double-digit number with △+ or ▽– or the number buttons (e.g. For »04«, select »4« here) (See Fig. 5.) and press OK.

6 Select "C" or "S" with △+ or ▽– and press OK.
The automatic channel presetting starts.
When presetting is finished, the PRESET menu reappears.
All available channels are now stored on successive number buttons.



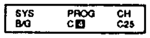
PRESET
► Auto Programme
Manual Programme Preset
Programme Exchange
Parental Lock
Select △▽ and press OK

Fig. 3.



AUTO PROGRAMME
SYS PROG CH
► B/G 01 C25
Select △▽ and press OK

Fig. 4.



SYS PROG CH
B/G C4 C25

Fig. 5.

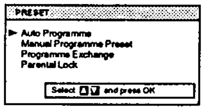
Use this method if there are only a few channels in your area to preset or if you want to preset channels one by one. You may also allocate programme numbers to various video input sources.

If you have made a mistake
Press ← to go back to the previous position.
To go back to main menu
Keep pressing ←.
To go back to the normal TV picture
Press MENU.

❸ Preset channels manually

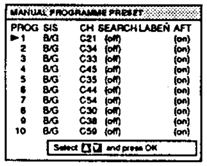
1 Select »Preset« with △+ or ▽– and press OK.
The PRESET menu appears. (See Fig.6.)

2 Select »Manual Programme Preset« with △+ or ▽– and press OK.
The MANUAL PROGRAMME PRESET menu appears. (See Fig. 7.)



PRESET
► Auto Programme
Manual Programme Preset
Programme Exchange
Parental Lock
Select △▽ and press OK

Fig. 6.



MANUAL PROGRAMME PRESET

PROG	SIS	CH	SEARCH	LABEN	AFT
► 1	B/G	C21	(off)		(on)
2	B/G	C34	(off)		(on)
3	B/G	C33	(off)		(on)
4	B/G	C45	(off)		(on)
5	B/G	C35	(off)		(on)
6	B/G	C44	(off)		(on)
7	B/G	C54	(off)		(on)
8	B/G	C30	(off)		(on)
9	B/G	C38	(off)		(on)
10	B/G	C59	(off)		(on)

Select △▽ and press OK

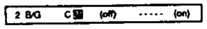
Fig. 7.

To tune in a channel by frequency
After selecting F in step 6, enter three digits using the number buttons.
Press OK.

3 Using △+ or ▽–, select the programme position (number button) to which you want to preset a channel, and press OK.

4 Keep pressing ▽– to select programme numbers higher than 10.

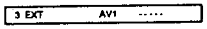
5 Select, if necessary, a video input source (EXT) with ▽+ or ▽–. Then press OK. The first element of the CH position will be highlighted. (See Fig. 8)



```
2 B/G      C█   (off)     -----   (on)
```

Fig. 8.

6 Using △+ or ▽–, select C (to preset a regular channel), or F (to tune in by frequency) and press OK.
The first element of the »CH« number will be highlighted.
If you have selected EXT in step 4, select the video input source with △+ or ▽–. (See Fig. 9).



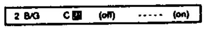
```
3 EXT              AV1    -----
```

Fig. 9.

Please refer to "Television channel Number Guide" on page 25.

There are two ways to preset channels. If you know the channel number, go to step »7-Manual«,
or
if you don't know the channel number, go to step »7-Search«.

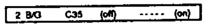
7 *Manual*
-a Select the first element of the »CH« number with △+ / ▽– or the number buttons and press OK.
The second element of the »CH« number will be highlighted.
-b Select the second element of the number with △+ / ▽– or the number buttons.
The selected number appears. (See Fig. 10.).



```
2 B/G      C█   (off)     -----   (on)
```

Fig. 10.

-c Press OK.
The »SEARCH« position is highlighted and the selected channel is noe stored. (See Fig. 11.).



```
2 B/G      C35   (off)     -----   (on)
```

Fig. 11.

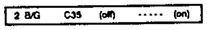
-d Press OK until the cursor appears by the next programme position.
-e Repeat steps 3 to 7 to preset other channels.

If you have made a mistake
Press ← to go back to the previous position.

To go back to main menu
Keep pressing ←.

To go back to the normal TV picture
Press MENU.

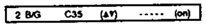
7 *Search*
-a Press OK repeatedly until the colour of the SEARCH position changes.
-b Start searching for the channel with △+ (up) or ▽– (down).
The CH position changes colour. (See Fig. 12.).
The CH number starts counting up or downwards. When a channel is found, it stops. (See Fig. 13).



```
2 B/G      C35   (off)     -----   (on)
```

Fig. 12.

-c Press OK if you want to store this channel. If not, press △+ or ▽– to continue channel searching.

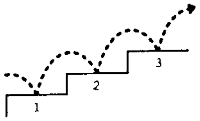


```
2 B/G      C35   (▲▼)     -----   (on)
```

Fig. 13.

-d Press OK until the cursor appears by the next programme position.
-e Repeat steps 3 to 7 to preset other channels.

1-5. ADDITIONAL PRESETTING FUNCTIONS

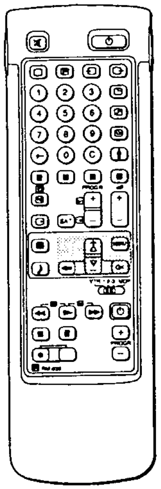


This section shows you additional presetting functions such as exchanging or skipping programme positions, captioning a station name, manual fine-tuning, and using the parental lock.

Before you begin

- Check that the Full Function side of the Remote Commander is visible.
- Locate the Menu operation buttons.

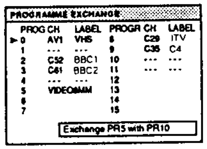
PROGRAMME EXCHANGE



Exchanging Programme Positions

With this function, you can exchange the programme positions to a preferable order.

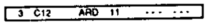
1 Press MENU to display the main menu.
2 Select "Preset" with △+ or ▽– and press OK.
The PRESET menu appears.
3 Select "Programme Exchange" with △+ or ▽– and press OK.
The PROGRAMME EXCHANGE menu appears.(See Fig. 14.)



```
PROGRAMME EXCHANGE
  PROG CH      LABEL  PROGR CH    LABEL
► 0    AV1     VHS    8     C29   ITV
  1    ---     ---    9     C35   C4
  2    C52     BBC1   10    ---   ---
  3    C61     BBC2   11    ---   ---
  4    ---     ---    12
  5    VIDEO8MM       13
  6                   14
  7                   15
            Exchange PR5 with PR10
```

Fig. 14.

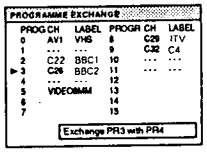
4 Using △+ or ▽–, select the programme position you want to exchange with another and press OK.
The colour of the selected position changes. (See Fig. 15.)



```
 3  C12       ARD   11       ---  ---
```

Fig. 15.

5 Using △+ or ▽–, select the programme position to be exchanged and press OK. Now the two programme positions have been exchanged. (See Fig. 16.)
6 Repeat steps 4 and 5 to exchange other programme positions.



```
PROGRAMME EXCHANGE
  PROG CH      LABEL  PROGR CH    LABEL
  0    AV1     VHS    8     C29   ITV
  1    ---     ---    9     C32   C4
  2    C22     BBC1   10    ---   ---
► 3    C26     BBC2   11    ---   ---
  4    ---     ---    12
  5    VIDEO8MM       13
  6                   14
  7                   15
            Exchange PR3 with PR4
```

Fig. 16.

For higher programme positions
The display scrolls automatically.

If you have made a mistake
Press ← to go back to the previous position

To go back to main menu
Keep pressing ←.

To go back to the normal TV picture
Press MENU.

Tuning in a Channel Temporarily

Ⓒ

You can tune in to a channel temporarily, even when it has not been preset. Use the buttons on the Full-Function side of the Remote Commander.

1 Press C on the Remote Commander. For cable channels, press C twice.
The indication »C« (»S« for cable channels) appears on the screen.
2 Enter the double-digit channel number using the number buttons (e.g. for channel 4, first press 0, then 4).
The channel appears.
However, the channel will not be stored.

MANUAL PROGRAMME PRESET

Skipping Programme Positions

You can skip unused programme positions when selecting programmes with the PROGR +/– buttons. However, the skipped programmes may still be called up when you use the number buttons.

1 Press MENU to display the main menu.

2 Select »Preset« with △+ or ▽– and press OK.
The PRESET menu appears.

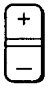
3 Select »Manual Programme Preset« with △+ or ▽– and press OK.
The MANUAL PROGRAMME PRESET menu appears. (See Fig.17.)

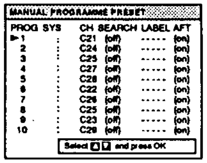
4 Using △+ or ▽–, select the programme position which you want to skip and press OK.
The »SYS« position changes colour.

5 Press △+ or ▽– until »-----« appears in the SYSTEM position. (See Fig. 18.)

6 Press OK. (See Fig. 19.)
When you select programmes using the PROGR+/– buttons, the programme position will be skipped.

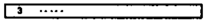
7 Repeat steps 4 to 6 to skip other programme positions.





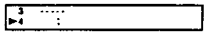
```
MANUAL PROGRAMME PRESET
PROG SYS     CH  SEARCH  LABEL  AFT
►1      :    C21  (off)  -----  (on)
 2      :    C24  (off)  -----  (on)
 3      :    C25  (off)  -----  (on)
 4      :    C27  (off)  -----  (on)
 5      :    C28  (off)  -----  (on)
 6      :    C22  (off)  -----  (on)
 7      :    C26  (off)  -----  (on)
 8      :    C25  (off)  -----  (on)
 9      :    C23  (off)  -----  (on)
10      :    C29  (off)  -----  (on)
          Select △▽ and press OK
```

Fig. 17.



```
 3  -----
```

Fig. 18.



```
 3  -----
►4  :
```

Fig. 19.

MANUAL PROGRAMME PRESET

Captioning a Station Name

You can »name« a channel or an input video source using up to five characters (letters or numbers) to be displayed on the TV screen (e.g. BBC1). Using this function, you can easily identify which channel or video source you are watching.

1 Press MENU to display the main menu.

2 Select »Preset« with △+ or ▽– and press OK.
The PRESET menu appears.

3 Select »Manual Programme Preset« with △+ or ▽– and press OK.
The MANUAL PROGRAMME PRESET menu appears. (See Fig. 20.)

4 Using △+ or ▽–, select the programme position you want to caption and press OK repeatedly until the first element of the LABEL position is highlighted.

5 Select a letter or number with △+ or ▽– and press OK.
The next element will be highlighted.
Select other characters in the same way. If you want to leave an element blank, select – and press OK. (See Fig. 21.)

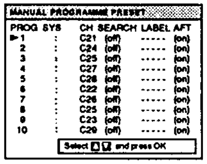
6 After selecting all the characters, press OK repeatedly until the cursor appears by the next programme position (at the left margin).
Now the caption you chose is stored. (See Fig. 22.)

7 Repeat steps 5 and 6 to caption names for other channels.

If you have made a mistake
Press ← to go back to the previous position.

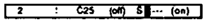
To go back to main menu
Keep pressing ←.

To go back to the normal TV picture
Press MENU.



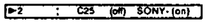
```
MANUAL PROGRAMME PRESET
PROG SYS     CH  SEARCH  LABEL  AFT
►1      :    C21  (off)  -----  (on)
 2      :    C24  (off)  -----  (on)
 3      :    C25  (off)  -----  (on)
 4      :    C27  (off)  -----  (on)
 5      :    C28  (off)  -----  (on)
 6      :    C22  (off)  -----  (on)
 7      :    C26  (off)  -----  (on)
 8      :    C25  (off)  -----  (on)
 9      :    C23  (off)  -----  (on)
10      :    C29  (off)  -----  (on)
          Select △▽ and press OK
```

Fig. 20.



```
 2      :    C25    (off)  S---  (on)
```

Fig. 21.



```
►2      :    C25    (off)  SONY- (on)
```

Fig. 22.

MANUAL PROGRAMME PRESET

Manual Fine-Tuning

Normally, the AFT (automatic fine-tuning) is already operating. However, if the picture is distorted, you can use the manual fine tuning function to obtain better picture reception.

1 Press MENU to display the main menu.

2 Select »Preset« with △+ or ▽– and press OK.

The PRESET menu appears.

3 Select »Manual Programme Preset« with △+ or ▽– and press OK.
The MANUAL PROGRAMME PRESET menu appears. (See Fig. 23.)

4 Using △+ or ▽–, select the programme position corresponding to the channel which you want to manually fine-tune, and press OK repeatedly until the AFT position changes colour.

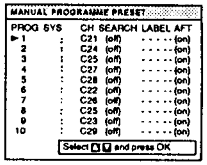
5 Fine-tune the channel with △+ or ▽– so that you get the best TV reception. As you press the cursor buttons, the frequency changes from – 15 to + 15. (See Fig. 24.)

6 After fine tuning, press OK.
The cursor appears beside the next programme position (at the left margin). (See Fig. 25.) Now the fine-tuned level is stored.

7 Repeat steps 4 to 6 to fine-tune other channels.

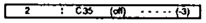
Manually fine tuned channels will be identilfied by ←F→ on the on screen indication (See page 15)

To reactivate AFT (automatic fine tuning).
Repeat from the beginning and select »ON« in step 5.



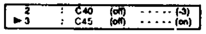
```
MANUAL PROGRAMME PRESET
PROG SYS     CH  SEARCH  LABEL  AFT
►1      :    C21  (off)  ------(on)
 2      :    C24  (off)  ------(on)
 3      :    C25  (off)  ------(on)
 4      :    C27  (off)  ------(on)
 5      :    C28  (off)  ------(on)
 6      :    C22  (off)  ------(on)
 7      :    C26  (off)  ------(on)
 8      :    C25  (off)  ------(on)
 9      :    C23  (off)  ------(on)
10      :    C29  (off)  ------(on)
          Select △▽ and press OK
```

Fig. 23.



```
 2      :    C35    (off)   ------(-3)
```

Fig. 24.



```
 2      :    C40    (off)   ------(-3)
►3      :    C45    (off)   ------(on)
```

Fig. 25.

PARENTAL LOCK

Parental Lock

You can prevent undesirable broadcasts from appearing on the screen. We suggest you use this function to prevent children from watching programmes which you consider unsuitable.

1 Press MENU to display the main menu.

2 Select "Preset" with △+ or ▽– and press OK.
The PRESET menu appears.

3 Select "Parental Lock" with △+ or ▽– and press OK.
The PARENTAL LOCK menu appears. (See Fig. 26.)

4 Using △+ or ▽–, select the programme position you want to block and press OK.
The CH and LABEL change colour indicating that this programme is now blocked. (See Fig. 27.)

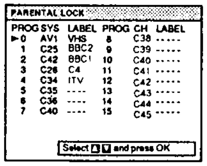
5 Repeat step 4 to block other programme positions.

Cancelling blocking

1 On the PARENTAL LOCK menu, select the programme position you want to unblock with △+ or ▽–.

2 Press OK.
The selected PROG number, CH and LABEL change colour to normal colour indicating that the blocking has been cancelled.

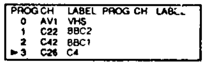
If you try to select a programme that has been blocked
The message »LOCKED« appears on the blank TV screen.



```
PARENTAL LOCK
PROG SYS  LABEL  PROG  CH   LABEL
►0   AV1  VHS     8    C38  -----
 1   C25  BBC2    9    C39  -----
 2   C42  BBC1   10    C40  -----
 3   C26  C4     11    C41  -----
 4   C34  ITV    12    C42  -----
 5   C35  ----   13    C43  -----
 6   C36  ----   14    C44  -----
 7   C40  ----   15    C45  -----

          Select △▽ and press OK
```

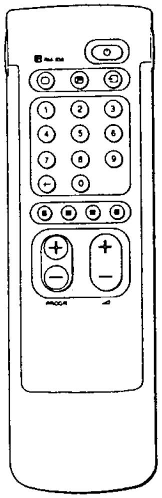
Fig. 26.



```
PROG CH   LABEL  PROG  CH   LABEL
 0   AV1  VHS
 1   C22  BBC2
 2   C42  BBC1
►3   C26  C4
```

Fig. 27.

1-6. WATCHING THE TV



If no picture appears when you depress ⊙ on the TV and if the standby indicator on the TV is lit, the TV is in standby mode. Press ○ or one of the number buttons to switch it on.

This section explains the basic functions you use while watching TV. Most of the operations can be done using the simple side of the Remote Commander.

Switching the TV on and off

Switching on

Depress ⊙ on the TV.

Switching off temporarily

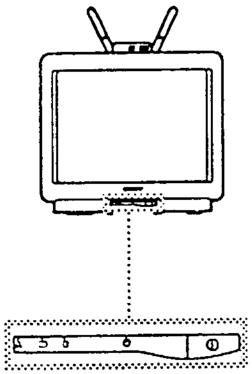
Press ⏻ on the Remote Commander.
The TV enters standby mode and the standby indicator on the front of the TV lights up.

To switch on again

Press ○, PROGR +/–, or one of the number buttons on the Remote Commander.

Switching off completely

Depress ⊙ on the TV.



Selecting TV Programmes

Press PROGR +/– or press the number buttons.

To select a double-digit number

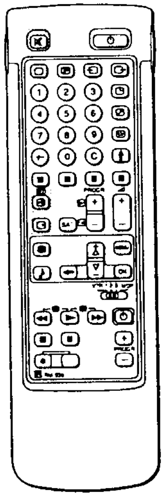
Press -/--, then the numbers.
For example, if you want to choose 23, press -/--, 2, and 3.

Adjusting the Volume

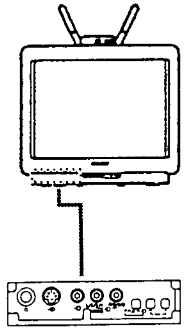
Press ⊿ +/–.

For details of the teletext operation, refer to page 20.

For details of the video input picture, refer to page 24.



Operating the TV Using the Buttons on the TV



With the buttons on the TV, you can select programmes, adjust the volume, and select video input sources.

- Press the P→⊿→⊖ button repeatedly until the programme number, ⊿ (for volume), or ⊖ (for video input picture) appears. Then adjust with the –/+ buttons.
- Press –/+ buttons to switch on the TV from the standby mode.
- Press –/+ simultaneously to reset picture and sound controls to the factory preset level (RESET function).

Watching Teletext or Video Input

Watching teletext

- Press ⊜ to view the teletext.
- Press three number buttons to select a page.
- Press one of the coloured buttons for fastext or TOP-Text operation.
- Press ⊕ (PAGE +) or ⊖ (PAGE –) for the next or preceeding page.
- To go back to the normal TV picture, press ○ .

Watching a video input picture

Press ⊖ repeatedly until the desired video input appears. To go back to the normal TV picture, press ○.

More Convenient Functions

Use the Full-Function side of the Remote Commander.

Displaying the on screen indications

- Press ⊕ once to display all the indications. They will disappear after some seconds.
- Press ⊕ twice to have the programme number and label stay on screen. Press twice again to make the indications disappear.

Muting the sound

Press ◀✕.
To resume normal sound, press ◀✕ again.

Displaying the time

Press ⊙. This function is available only when teletext is broadcast.
To make the time display disappear, press ⊙ again.

1-7. ADJUSTING AND SETTING THE TV USING THE MENU

PICTURE CONTROL

SOUND CONTROL

Adjusting the Picture and Sound

Although the picture and sound are adjusted at the factory, you can adjust them to suit your own taste. In addition, you can change the aspect ratio of the TV display for wide screen effect or set the resolution to obtain a higher quality picture. You can also select dual sound (bilingual) programmes when available or adjust the sound for listening with the headphones.

1 Press ■ (for picture) or ♪ (for sound) on the remote Commander.

or

Press MENU and select »Picture Control« or »Sound Control«, then press OK.
The PICTURE CONTROL or SOUND CONTROL menu appears. (See Fig. 28 or Fig. 29.)

2 Using △+ or ▽–, select the item you want to adjust and press OK.
The selected item changes colour. (See Fig. 30.)

3 Adjust the setting with △+ or ▽– and press OK.
The cursor appears beside the next item (at the left margin). (See Fig. 31.)
For the effect of each control, see the table below.

4 Repeat steps 2 and 3 to adjust other items.

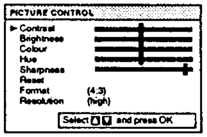

PICTURE CONTROL
► Contrast
Brightness
Colour
Hue
Sharpness
Reset
Format (4:3)
Resolution (high)

Fig. 28.

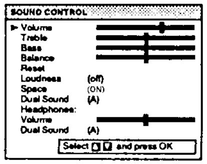

SOUND CONTROL
► Volume
Treble
Bass
Balance
Reset
Loudness (off)
Space (ON)
Dual Sound (A)
Headphones:
Volume
Dual Sound (A)

Fig. 29.

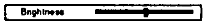
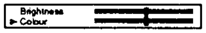

Brightness

Fig. 30.

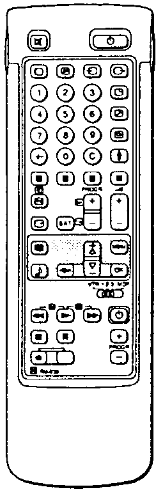

Brightness
► Colour

Fllg. 31.

Effect of each control

PICTURE CONTROL	Effect
Contrast	Less ——I—— More
Brightness	Darker ——I—— Brighter
Colour	Less ——I—— More
Hue	Greenish ——I—— Reddish
Sharpness	Softer ——I—— Sharper
Reset	Resets picture to the factory preset levels.
Format	4 : 3 : Normal 16 : 9 : Wide screen effect

SOUND CONTROL	Effect
Volume	Less —I— More
Treble	Less —I— More
Bass	Less —I— More
Balance	More left —I— More right
Reset	Resets sound to the factory preset levels.
Loudness	off: Normal on: When listening to low volume sound.
Space	off: Normal on: Obtain acoustic sound effect.
Dual Sound	A: left channel B: right: channel Stereo mono The selected mode of the A-◯◯-B Indicator on the TV lights up (for NICAM broadcasts see next page)
Headphones :	
Volume	Less —I— More
Dual Sound	A: left channel B: right channel stereo mono



If you have made a mistake
Press ⬅ to go back to the previous position.

To go back to the main menu
Keep pressing ⬅.

To go back to the normal TV picture
Press MENU.

Note
HUE is only available for NTSC colour systems.

Note on LINE OUT
The audio level and the dual sound mode output from the ⊖ jack on the rear correspond to the Headphone VOLUME and DUAL SOUND settings.

When watching a video input picture
You can select DUAL SOUND to change the sound.

PROGRAMME TABLE

To go back to the normal TV picture
Press MENU.

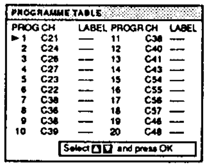
Using the Programme Table

On this table, you can see which channel is preset to which programme position. You can also select programmes using this table.

From the main menu, select »Programme Table« with △+ or ▽– and press OK.
The PROGRAMME TABLE menu appears. (See Fig. 32.)

To scroll to higher programme numbers, press △ –.

To select a programme using this menu
Select the programme number with △+ or ▽– and press OK.
The selected programme appears.


PROGRAMME TABLE

PROG	CH	LABEL	PROGR	CH	LABEL
► 1	C21	—	11	C38	—
2	C24	—	12	C40	—
3	C26	—	13	C41	—
4	C27	—	14	C43	—
5	C23	—	15	C54	—
6	C22	—	16	C55	—
7	C38	—	17	C56	—
8	C36	—	18	C57	—
9	C38	—	19	C46	—
10	C39	—	20	C48	—

Fig. 32.

TIMER

To switch off the timer
Select »OFF« in step 3.

To check the remaining time
Press ⊙.

Using the Sleep Timer

You can select a time period after which the TV automatically switches into standby mode.

1 From the main menu, select »Timer« with △+ or ▽– and press OK.
The TIMER menu appears. (See Fig. 33.)

2 Press OK.
The time period option changes colour.

3 Select the time period with △+ or ▽–.
The time period (in minutes) changes as follows:

10 → 20 → 30 → 40 → 50 → 60 → 70 → 80 → 90
↑______ OFF ______↓

4 After selecting the time period, press OK.
The cursor moves back to the left margin and the timer starts counting.
One minute before the TV switches into standby mode, a message is displayed on the screen.

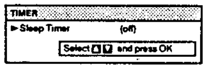
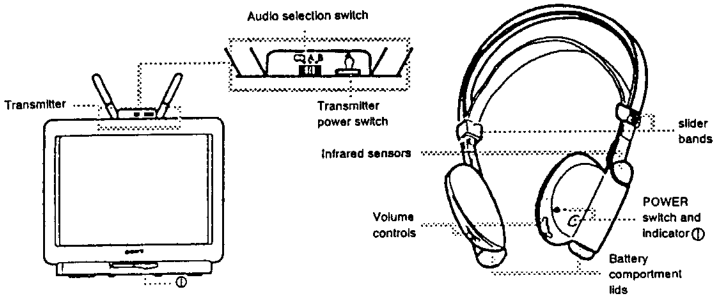

TIMER
► Sleep Timer (off)

Fig. 33.

1-8. USING THE HEADPHONES

This cordless stereo headphones system uses infrared rays allowing you to enjoy the benefits of normal TV viewing with high quality sound, free from the restriction of a headphones cord.



Turning on the Transmitter

1 Switch on the TV and press ∩ on the transmitter.
The transmitter will turn on and the infrared emitter lights will glow.
2 Carefully raise both the transmitters so that they are sufficently visible.

To switch off
Press ∩ again.

NOTE :
For best reception, rotate the transmitter lens to face the listening position.

Turning on the Headphones

Press ① on the headphones.
The headphones will turn on and the indicator light will glow.

To switch off
Press ① again.

Note :
The headphones will automatically turn themselves off after approximately 3 hours.
To continure use, turn on the power switch again.

Listening to a Program

1 Put on the headphones and, if necessary, adjust the slider bands for comfort.
2 Select the required viewing channel using the Remote Commander.
3 Adjust the volume controls, on the headphones, so that the volume levels of both channels are the same.

Note :
Be sure not to cover the infrared sensors with your hands or hair, or expose the headphones to direct sunlight.

Using the Transmitter audio switch*

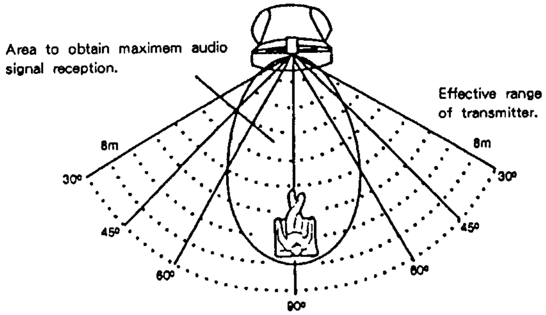
By adjusting the audio switch on the transmitter you can select the sound of your choice. The A-ↀ-B indicators on the TV set will identify which service is being broadcast.

* Depending on availability of service.

Service being broadcast	Indication on the TV A-ↀ-B	Transmitter audio switch position		
		ↀ	A	B
Nicam	☼ ☼	Stereo/ Mono (2-channel)	Left channel	Right channel
	▭ ▭	Normally broadcast language		
Bilingual	☼ ▭	Language A + B	Language A	Language B
	▭ ☼			
	▭ ▭	Normally broadcast language		

Coverage of the infrared rays

The infrared rays will not penetrate walls or opaque glass, therefore, the headphones must be used within the 'in sight' area of the transmitter.


Area to obtain maximem audio signal reception.
Effective range of transmitter.
8m
8m
30°
30°
45°
45°
60°
60°
90°

Be sure to remain within the effective range of the infrared rays while viewing the TV. However, should you use the headphones at too great a distance, from the transmitter, the audio signal will become weak and you may eaperience a hissing noise.

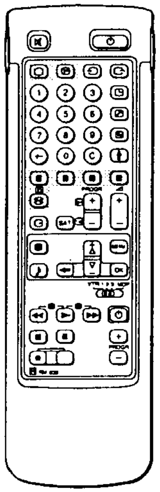
Note :
These phenomena are inherent to infrared-ray communication and do not mean there is a problem with the unit itself.

General transmitter information

Carrier frequency Right 2.8MHz Left 2.3MHz	Frequency response : 18 - l 22,000Hz
Effective range Up to 8m approx.	Distortion : Less than 1 % at 1KHz

Notre :
This appliance conforms with EEC directive 87/308/EEC regarding interference suppression.

1-9. TELETEXT



Note
Teletext errors may occur if the broadcasting signals are weak.

With the simple side of the Remote Commander
You can switch teletext on and off, operate Fastext, and directly select page numbers.

Note
TOPTEXT operation is only possible, if the TV Station broadcasts TOPTEXT signals.

TV stations broadcast an information service called Teletext via the TV channels.Teletext service allows you to receive various information pages such as weather reports or news at any time you want. For advanced teletext operation, use the buttons on the Full-Function side of the Remote Commander.

Direct Access Functions

Switching Teletext on and off

1 Select the TV channel which carries the teletext broadcast you want to watch.

2 Press ⊜ to switch on teletext.
A teletext page will be displayed (usually the index page).
If there is no teletext broadcast, P100 is displayed on the information line at the top of the screen.

To switch teletext off

Press ○.

Selecting a teletext page

With direct page selection

Use the number buttons to input the three digits of the chosen page number.
If you have made a mistake, type in any three digits. Then re-enter the correct page number.
If the page counter keeps searching, the page number might not be available.

With page-catching

1 Select a teletext page with a page overview (e.g. index page).

2 Press ⊕ twice. »Page catching« will be displayed on the information line. The last digit of the first displayed page number flashes.

3 Using △+ or ▽–, select the desired page and press OK.
The requested page will appear in a few seconds.

Accessing next or preceding page

Press ⊖ (PAGE+) or ⊖ (PAGE-).
The next or preceding page appears.

Superimposing the teletext display on the TV programme

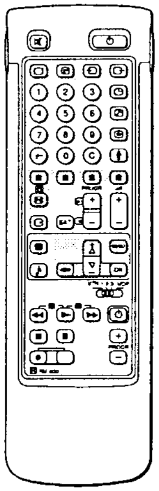
- Press ⊜ once in teletext mode or twice in TV mode.
- Press ⊜ again to resume normal teletext reception.

Preventing a teletext page from being updated

- Press ⊕ (HOLD). The HOLD symbol "⊕" is displayed on the information line.
- Press ⊜ to resume normal teletext reception.

Using TOPTEXT

With Fastext you can access pages with one key stroke.
When a Fastext page is broadcast, a colour-coded menu will appear at the bottom of the screen. The colours of this menu correspond to the red, green, yellow and blue buttons on the Remote Commander.
Press the corresponding coloured button on the Remote Commander which corresponds to the colour-coded menu. The page will be displayed after a few seconds.



Note
Some of the features may not be available depending on the Teletext service.

Note on SUBTITLES
If the subtitles are not broadcast on page 888, Please select the subtitle page using the number buttons.

To cancel the request
Select "OFF" for the TIME PAGE settting.

Using the Teletext Menu

This TV is provided with a menu-guided teletext system. When teletext is switched in, you can use the menu buttons to operate the teletext menu. Select the teletext menu functions in the following way:

1 Press MENU. The menu will be superimposed on the teletext display. (See Fig. 34.)

2 Using △+ or ▽–, select the teletext function you want and press OK. (See Fig. 35.)

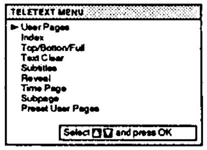


Fig. 34.

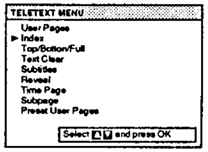


Fig. 35.

USER PAGES/PRESET USER PAGES

See page 52 for information about presetting and operating the user pages.

INDEX

The index will give you an overview of the contents of the teletext and the page numbers.

TOP/BOTTOM/FULL

For convenient reading of a teletext page, you can enlarge the teletext display. After having selected the function, an information line TOP/BOTTON/FULL will be displayed. (See Fig. 36.)

Press △+ for »Top« to enlarge the uper half, ▽– for »Bottom« to enlarge the lower one and OK for »Full« to resume the normal size.

Press ⊜ to resume normal teletext reception.

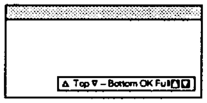


Fig. 36.

TEXT CLEAR

After having selected the function, you can watch a TV programme while waiting for a requested teletext page to be captured (The symbol change colour.) (See page Fig. 37)
Press ⊜ to view the captured page.

Fig. 37.

SUBTITLES

Your teletext service will inform you if a TV programme is subtitled. After having selected the function the subtitles will be displayed.

REVEAL

Sometimes Pages contain concealed information, such as answers to a quiz. The reveal option lets you disclose the information. After having selected the function, an information line »REVEAL ON/OFF« will be displayed. (See Fig. 38.)

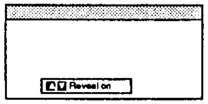


Fig. 38.

Using △+ or ▽–, select ON to reveal the information of OFF to conceal it again.

Press ⊜ to resume normal teletext reception.

TIME PAGE

Your teletext service will inform you, if a time coded page is available. You may have a page (e. g. an alarm pagge) display at a certain time.

1 Press OK, using △+ or ▽–, select on for the Time Page setting and press OK. The TV programme you were watching before you selected Time Page is restored. An information window will be displayed at the bottom of the page.

2 To select the desired page, enter three digits for the page number (e. g. 301) using the number buttons and press OK.

3 To select the desired time, enter four digits for the desired time (e. g. 1800) using the number buttons and press OK. The selected time is displayed at the top in the left-handed corner. At the requested time, the page will be displayed.
Press ⊜ to resume normal teletext mode.

To cancel the request Select the SUBPAGE setting and press OK.

SUBPAGE

You may want to select a particular teletext page from several subpages which are rotated automatically.

After having selected the function, an information line will be displayed.

To select the desired subpage, enter four digits using PROG +/– or the number buttons (e.g. enter 0002 for the second page of a sequence).

If two broadcasting stations use the same Teletext You can preset one bank to 2 different programme positions.

User Page Bank System

You can store up to 30 pages in the »Teletext page bank system«. In this way you have quick access to the pages you watch frequently.

Storing pages

There are 5 »banks« (A to E) for 5 teletext stations. In each bank you can store 6 preferred pages (P1 to P6).

1 Press ⊜ (if Teletext is not on already) and MENU to show the TELETEXT MENU display.

2 Select PRESET USER PAGES with △+ or ▽– and press OK.

3 Select the desired bank with △+ or ▽– and press OK. The cursor will go to the first position (P1) of the preferred pages.

4 Input the three digits of your first preferred page with the number buttons and press OK.
The cursor will go to the second position.

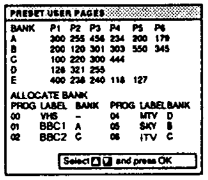
5 Repeat step 4 for the other 5 page numbers you want to preset.
If you do not want to preset all 6 page numbers available, press OK without inserting any number.
After having finished the presetting press OK repeatedly until the cursor appears besides the next bank at the left margin.

6 Select »Allocate Bank« with △+ or ▽– and press OK.

7 Select the programme position for which you have preset pages with △+ or ▽– and press OK. (See Fig. 39.).

8 Select the desired bank with △+ or ▽– (Banks A to E are available) and press OK.

9 Repeat steps 3 to 8 for the other 4 banks available.



PRESET USER PAGES

BANK	P1	P2	P3	P4	P5	P6
A	300	255	456	234	200	179
B	200	120	301	303	550	345
C	100	220	300	444		
D	128	321	255			
E	400	238	240	118	127	

ALLOCATE BANK

PROG	LABEL	BANK	PROG	LABEL	BANK
00	VHS	–	04	MTV	D
01	BBC1	A	05	SKY	B
02	BBC2	C	06	ITV	C

Select △ ▽ and press OK

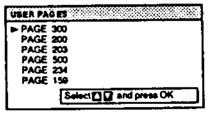
Fig. 39.

Displaying User Pages.

1 Select MENU.

2 Select USER PAGES with △+ or ▽– and press OK.
A table of the stored preferred pages will be displayed. (See Fig. 40.)

3 Select the desired page with △+ or ▽– and press OK. The page will be displayed after some seconds.



USER PAGES

► PAGE 300
PAGE 200
PAGE 203
PAGE 500
PAGE 234
PAGE 159

Select △ ▽ and press OK

Fig. 40.

1-10. CONNECTING AND OPERATING OPTIONAL EQUIPMENT

Connecting Optional Equipment

You can connect optional audio-video equipment to this TV such as a VTRs, video disc player, and stereo system.

To connect a VTR using the T terminal Connect the serial output of the VTR to the aerial terminal T of the TV.

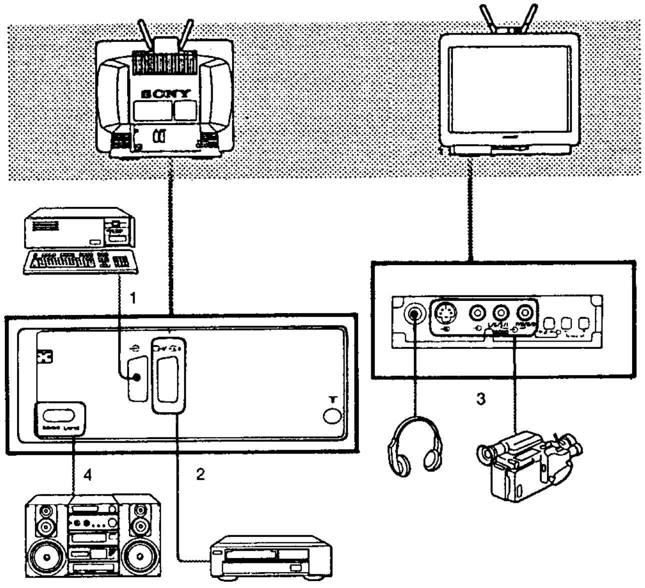
We recommended that you tune in the video signal to programme number "0". For details see "Preset channels manually on page 39."

If the picture or the sound is distorted Move the VTR away from the TV.

S video input(Y/C input) Video signals may be separated into Y (luminance or brightness) and C (chrominance) signals. Separating the Y and C signals prevents them from interfering with one another, and therefore improves picture quality (especially luminance). This TV is equipped with 2 S Video input jacks through which these separated signals can be input directly.

When connecting a monaural VTR Connect only the white -◐ jack to both the TV and VTR.

The cordless headphone feature is also available when using external audio/video equipment.

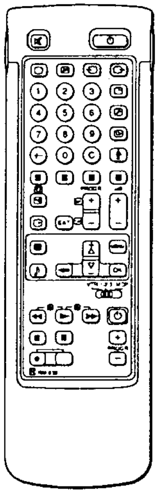


Acceptable input signal	Available output signal
1 Normal audio/video and RGB signal	Video/audio from TV tuner
2 Normal audio/video and S video signal	Video/audio from selected source
3 Normal audio/video and S video signal	No outputs
4 No inputs	Audio signal (variable)

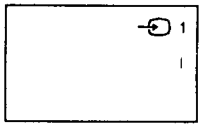
Selecting input and output

This section explains how to view the video input picture (of a video source connected to your TV), and how to select the output signal using direct access buttons or the menu system.

Selecting input with PROGR +/– or number buttons
You can preset video input sources to the programme positions so that you can select them with PROGR +/– or number buttons. For details, see "Preset channels manually" on page 39.



Selecting input



Press →⊙ repeatedly to select the input source.

The symbol of the selected input source will appear.

To go back to the normal TV picture

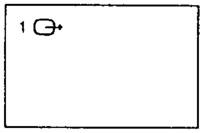
Press ▢.

Input modes

Symbol	Input signal
→⊙ 1	Audio/video input through the →⊙ 1 connector
→⊙	RGB input through the →⊙ 1 connector
→⊙ 2	Audio/video input through the ⊙→ 2/ →Ⓢ 2 connector
→Ⓢ 2	S video input through the ⊙→ 2/ →Ⓢ 2 connector
→⊙ 3	Audio/video input through →⊙ 3 and →⊙ 3 on the front
→Ⓢ 3	S video input through the →Ⓢ 3 connectors on the front (4-pin connector)

You can also select the input mode using the P→△→⊙ and –/+ buttons on the TV. In this case, first select →⊙, and then press –/+ buttons to select the input.

Selecting the output



The ⊙→ 2 /→Ⓢ 2 connector outputs the source input from the other connectors.

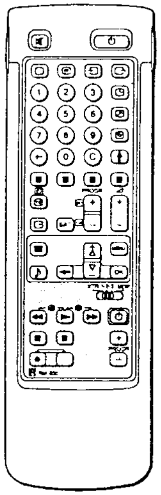
Press ⊙→ repeatedly to select the output.

The symbol of the selected output source appears.

Output modes

Symbol	⊙→ 2/ →Ⓢ 2 connector outputs
1 ⊙→	The audio/video signal from the →⊙ 1 connector
2 ⊙→	The audio/video signal from the ⊙→2/ →Ⓢ connector
2 Ⓢ→	The audio/S video signal from the ⊙→2/ or →Ⓢ 2 connector
3 ⊙→	The audio/video signal from the →⊙ 3 and →⊙ 3 connectors
3 Ⓢ→	The audio/S video signal from the →Ⓢ 3 and →⊙ 3 connectors
TV⊙→	The audio/video signal from the ╥ aerial terminal

Note on LINE OUT
The audio level and the dual sound mode output from the ⊙→ jack on the rear correspond to the HEADPHONES VOLUME and DUAL SOUND settings.



When recording
when you use the ● (record) button, make sure to press this button and the one to the right of it simultaneously.

Checking and selecting the input and output sources using the menu

You can display the menu to see which input sources are selected for the TV screen, and which output source is selected. You can also select them on the menu display.

1. Select »Video Connection« with △+ or ▽– and press OK. The VIDEO CONNECTION menu appears. (See Fig. 41.)
   You can see which source is selected for the TV input and for the output. If you want to select the input and output on this menu, go on to the next step.
2. Select TV screen (input source for the TV screen), or Output (output source) with △+ or ▽– and press OK. One of the source items changes colour. (See Fig. 42.)
3. Select the desired source with △+ or ▽–. (See Fig. 43.)
   For details about each source, see the table on page 22.
4. Press OK.
   The selected source is confirmed, and the cursor appears. (See Fig. 44.)
5. Repeat steps 2 to 4 to select the source for other inputs or outputs.

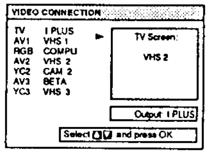


Fig. 41.

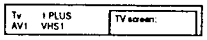


Fig. 42.

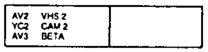


Fig. 43.

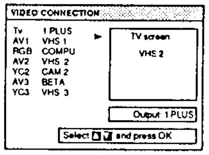


Fig. 44.

Remote Control of Other Sony Equipment

You can use the TV Remote Commander to control most of Sony remote-controlled video equipment such as: Beta, 8 mm or VHS VTRs or video disc players.

Tuning the Remote Commander to the equipment

1. Set the VTR 1/2/3 MDP selector according to the equipment you want to control:

   VTR 1: Beta or ED Beta VTR
   VTR 2: 8 mm VTR
   VTR 3: VHS VTR
   MDP : Video disc player
2. Use the buttons indicated in the Illustration to operate the additional equipment.
   If your video equipment is furnished with a COMMAND MODE selector, set this selector to the same position as the VTR 1/2/3 MDP selector on the TV Remote Commander.

   If the equipment does not have a certain function, the corresponding button on the Remote Commander will not operate.

1-11. FOR YOUR INFORMATION

Troubleshooting

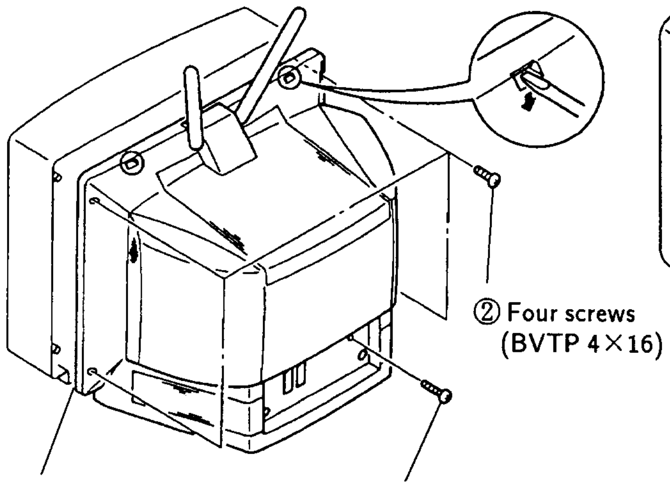
Here are some simple solutions to some problems which may affect the picture and sound.

Problem	Solution
No picture (screen is dark), no sound	• Plug in the TV in. • Press ⏼ on the TV. (If ⏻ indicator is on, press ○ or a programme number on the Remote Commander). • Check the aerial connection. • Check if the selected video source is on. • Turn the TV off for 3 or 4 seconds and then turn it on again using ⏼.
Poor or no picture (screen is dark), but good sound	• Press ● to enter the PICTURE CONTROL menu and adjust the »Brightness«, »Contrast« and »Colour«.
Good picture but no sound	• Press ⊿ +. • Check loudspeakers connection. • If ≪ is displayed on the screen, press ≪.
No colour for colour programmes	25.13 • Press ● to enter the PICTURE CONTROL menu, select »Reset«, then press OK.
Remote Commander does not function	25.15 • Replace batteries.

If you continue to have problems, have your TV serviced by qualified personnel. Never open the casing yourself.

SECTION 2
DISASSEMBLY

2-1. REAR COVER REMOVAL



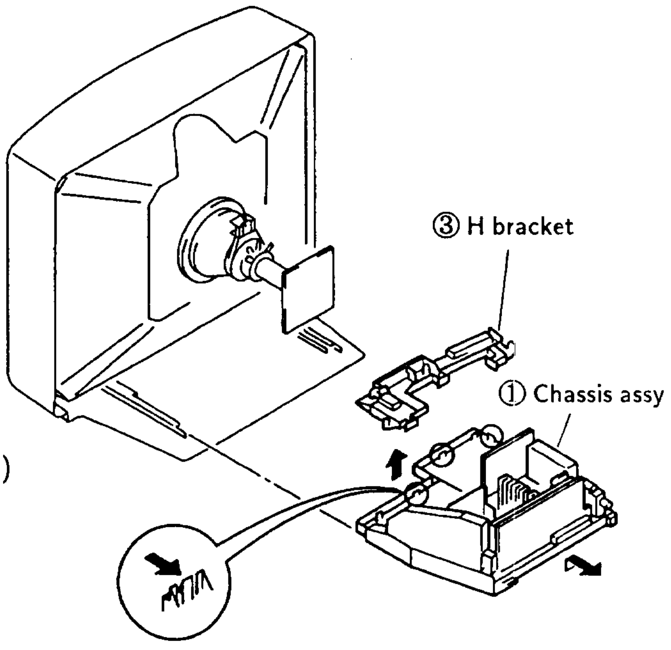
③ Remove two claws push diagonally from the above using a flat head screwdriver.

② Four screws (BVTP 4×16)

④ Rear cover

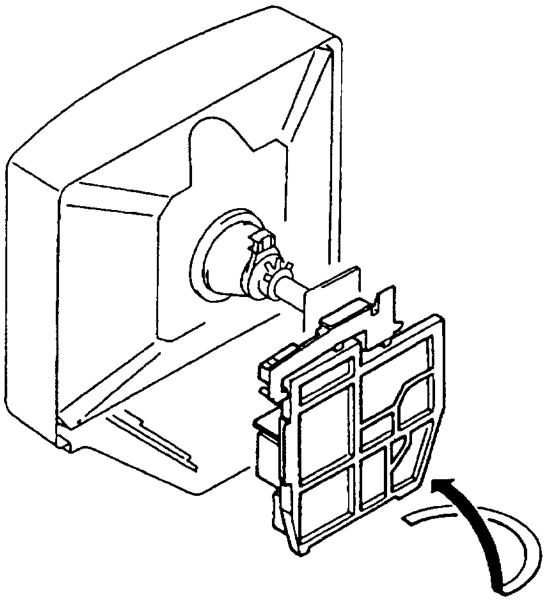
① One screw (BVTP 4×16)

2-2. CHASSIS ASSY REMOVAL



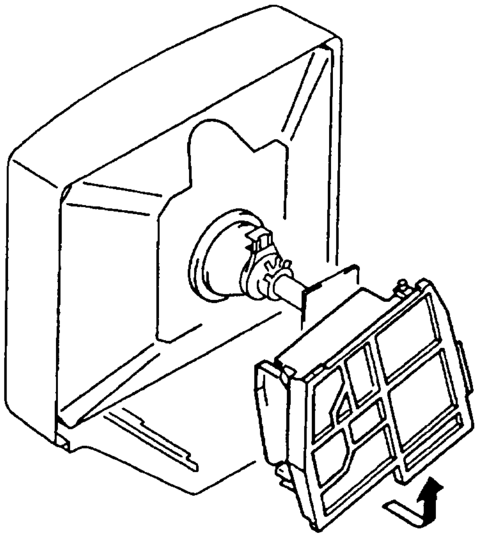
② Push the three claws of the main chassis in the direction of the arrow and remove the H bracket upwards.

2-3. SERVICE POSITION (1)

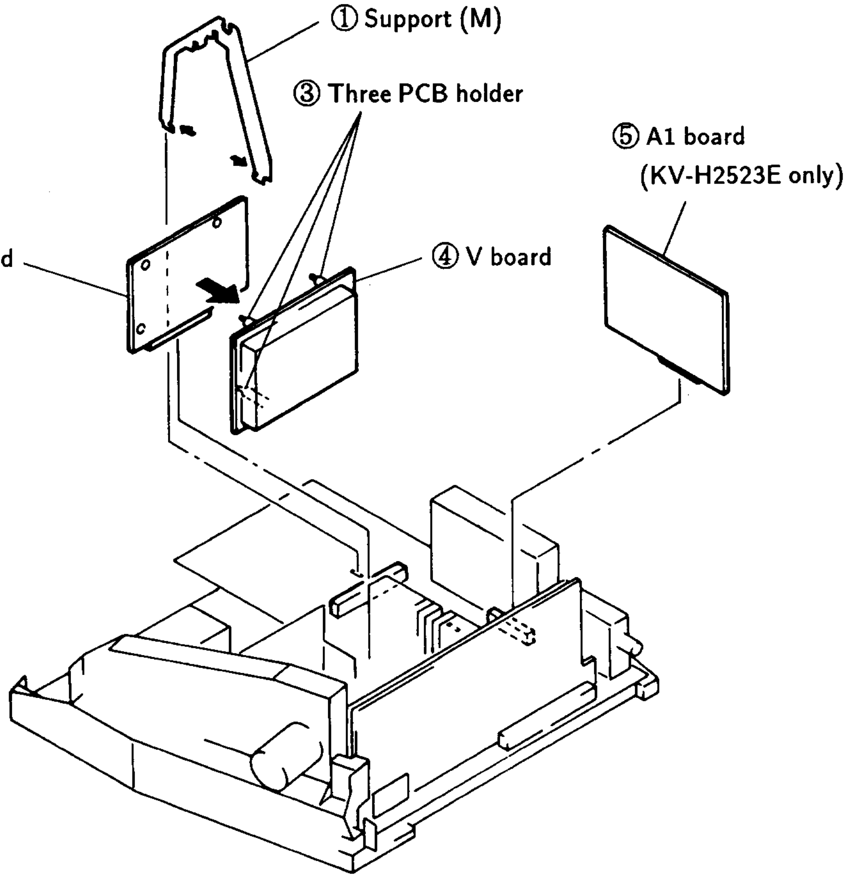


SERVICE POSITION (2)

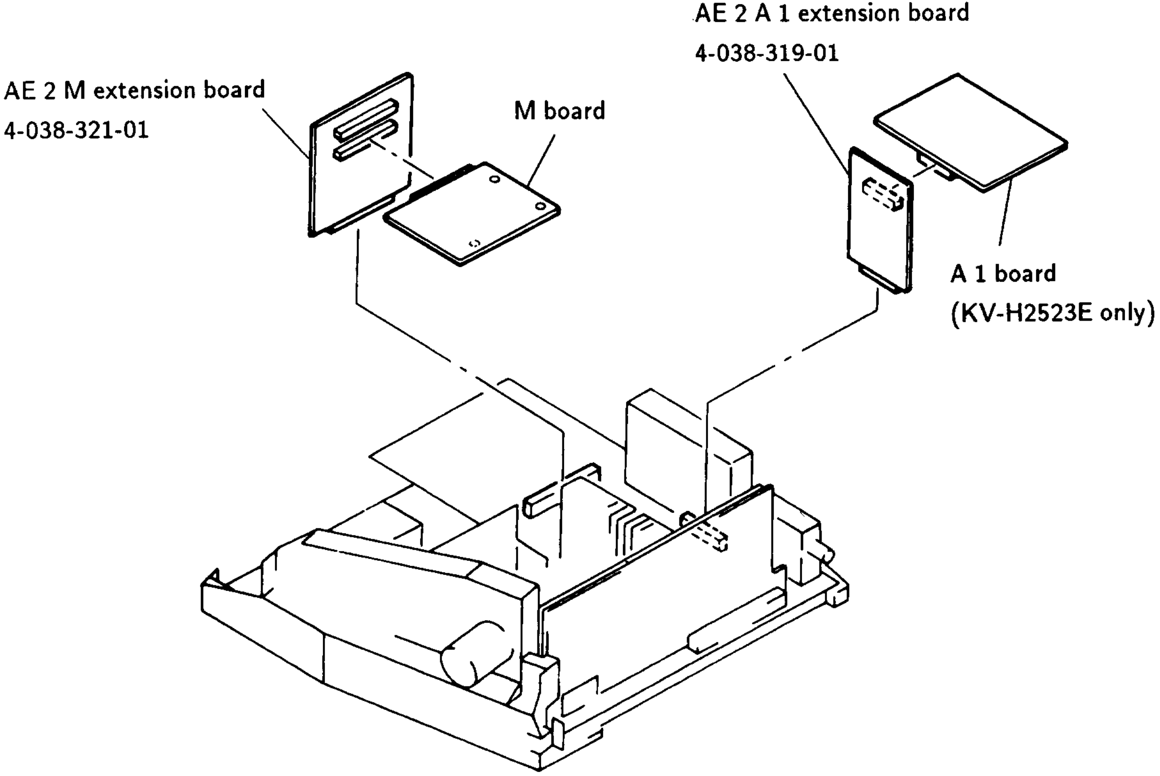
※ Remove the H bracket from the chassis assy and then perform the following servicing. (Refer to 2-2. CHASSIS ASSY REMOVAL)



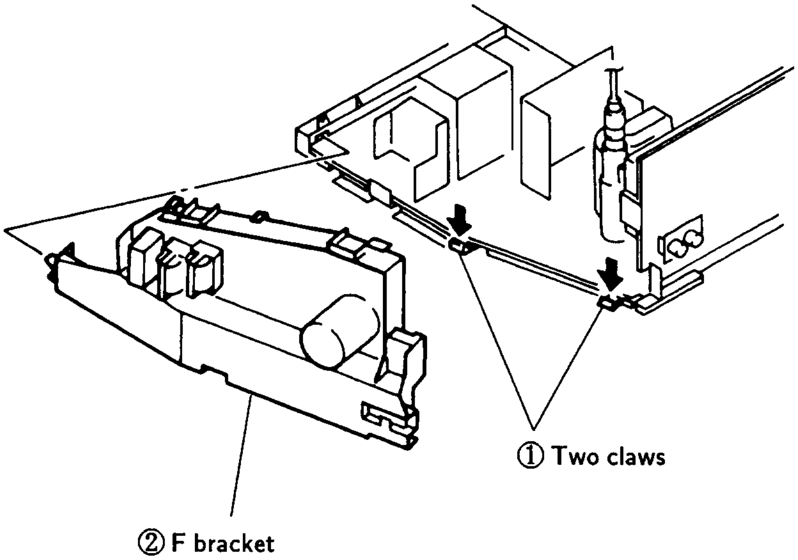
2-4. M, V AND A1 BOARDS REMOVAL


① Support (M)
③ Three PCB holder
⑤ A1 board
(KV-H2523E only)
② M board
④ V board

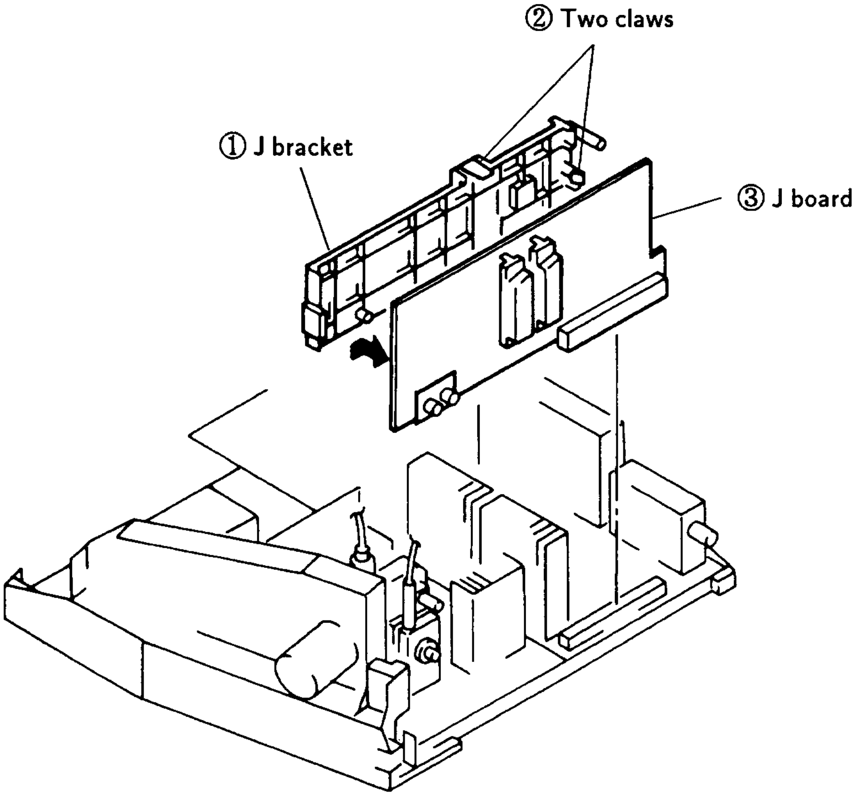
2-5. EXTENSION BOARD


AE 2 A 1 extension board
4-038-319-01
AE 2 M extension board
4-038-321-01
M board
A 1 board
(KV-H2523E only)

2-6. F BRACKET REMOVAL

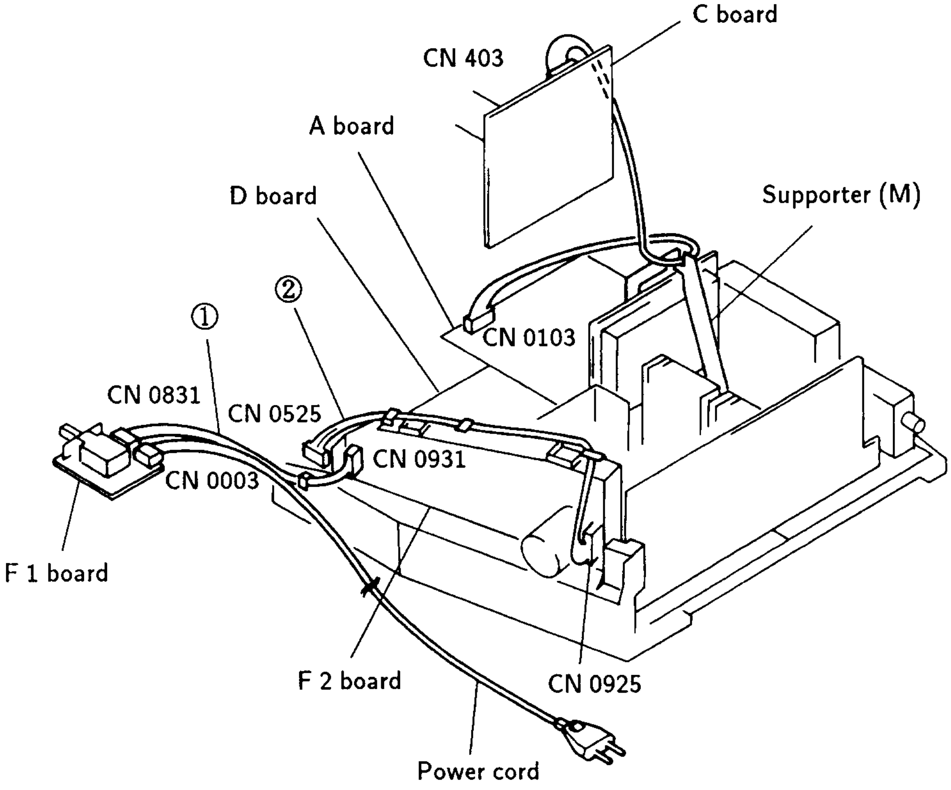

① Two claws
② F bracket

2-7. J BOARD REMOVAL

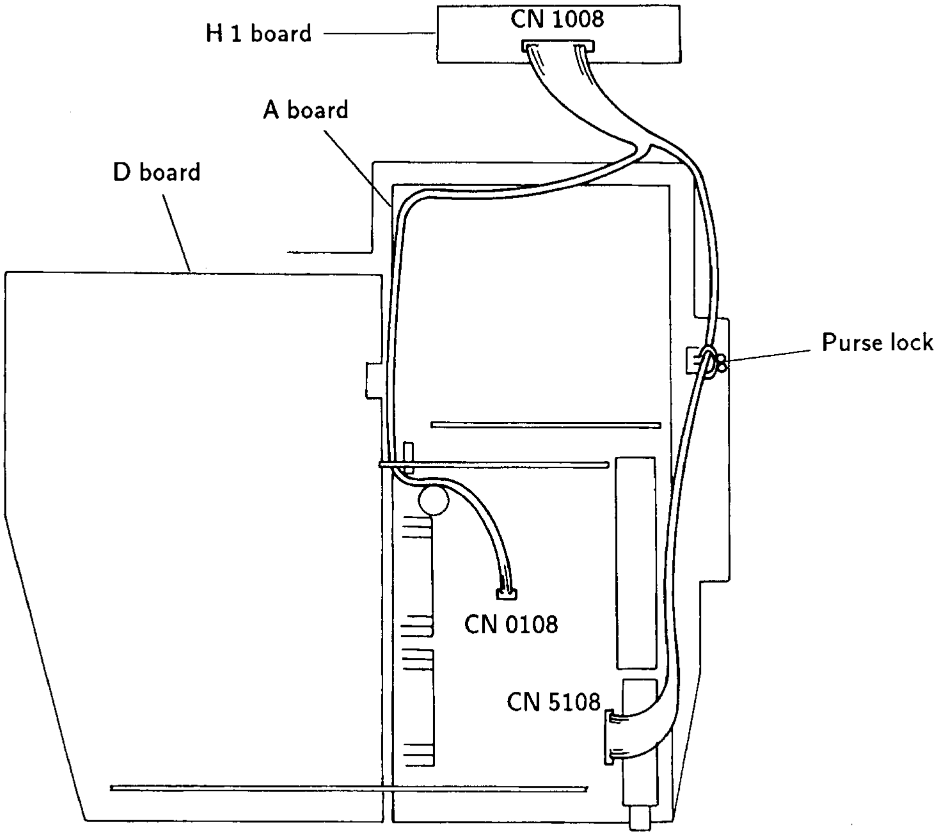

② Two claws
① J bracket
③ J board

2-8-1. WIRE ROD

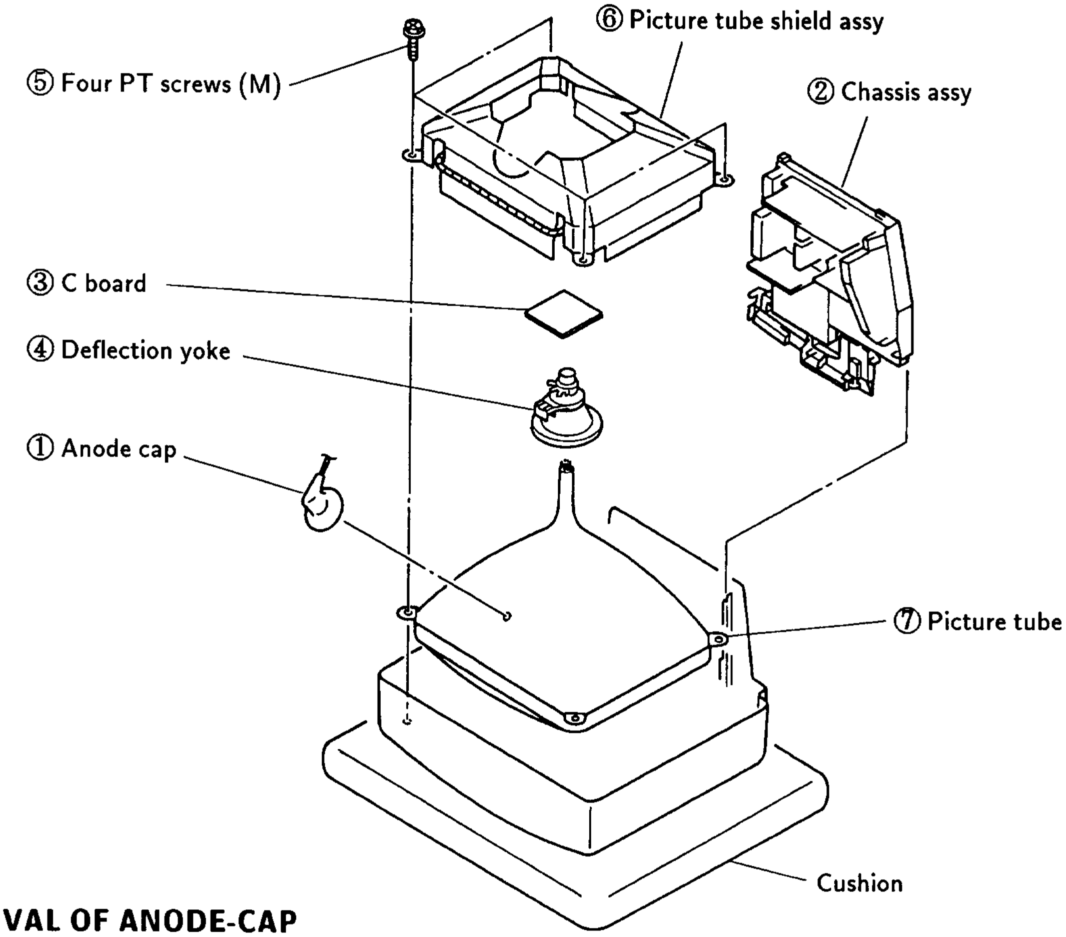
※ Keep distance between ① and ②


C board
CN 403
A board
D board
Supporter (M)
②
①
CN 0103
CN 0831
CN 0525
CN 0931
CN 0003
F 1 board
F 2 board
CN 0925
Power cord

2-8-2. WIRE ROD


H 1 board
CN 1008
A board
D board
Purse lock
CN 0108
CN 5108

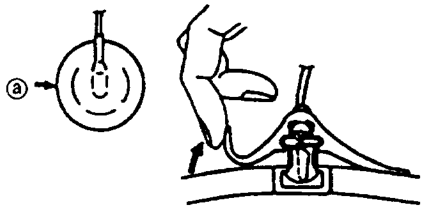
2-9. PICTURE TUBE REMOVAL


⑥ Picture tube shield assy
⑤ Four PT screws (M)
② Chassis assy
③ C board
④ Deflection yoke
① Anode cap
⑦ Picture tube
Cushion

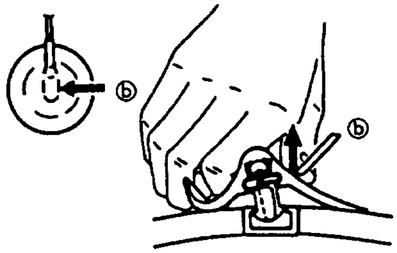
• REMOVAL OF ANODE-CAP

NOTE : Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT chield or carbon painted on the CRT, after removing the anode.

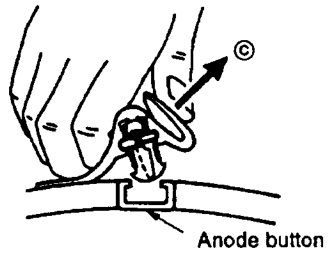
• REMOVING PROCEDURES



① Turn up one side of the rubber cap in the direction indicated by the arrow ⓐ.



② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ.


ⓒ
Anode button

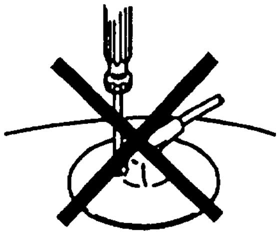
③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ⓒ.

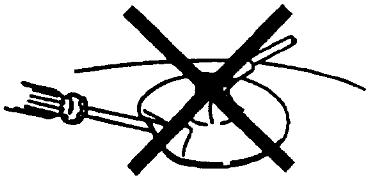
• HOW TO HANDLE AN ANODE-CAP

① Don't hurt the surface of anode-caps with sharp shaped material!

② Don't press the rubber hardly not to hurt inside of anode-caps!
A material fitting called as shatter-hook terminal is built in the rubber.

③ Don't turn the foot of rubber over hardly!
The shatter-hook terminal will stick out or hurt the rubber.





SECTION 3
SET-UP ADJUSTMENTS

- When complete readjustment is necessary or a new picture tube is installed, carry out the following adjustments.
- Unless there is specific instruction to the contrary, carry out these adjustments with the rated power supply.
- Unless there is specific instruction to the contrary, set the controls and switches this way :

◑ Contrast .... 80% (or remote control normal)
☼ Brightness 50%

- Carry out the following adjustments in this order :

1. Beam landing
2. Convergence
3. Focus
4. White balance

Note: Testing equipment required.

1. Color bar/pattern generator
2. Degausser
3. DC power supply
4. Digital multimeter
5. Oscilloscope

Preparations:

- In order to reduce the influence of geomagnetism on the set's picture tube face it east or west.
- Switch on the set's power and degauss with the degausser.

3-1. BEAM LANDING

1. Input the white signal with the pattern generator.
   Contrast } normal
   Brightness } normal
2. Position neck assy as shown in Fig.3-2.
3. Set the pattern generator raster signal to red.
4. Move the deflection yoke to the rear and adjust with the purity control so that the red is at the center and the blue and the green take up equally sized areas on each side. (See Fig.3-1 - 3-3)
5. Move the deflection yoke forward and adjust so that entire screen is red. (See Fig.3-1)
6. Switch the raster signal to blue, then to green and verify the condition.
7. When the position of the deflection yoke has been decided, fasten the deflection yoke with the screws.
8. If the beam does not land correctly in all the corners, use a magnet to adjust it. (See Fig.3-4)

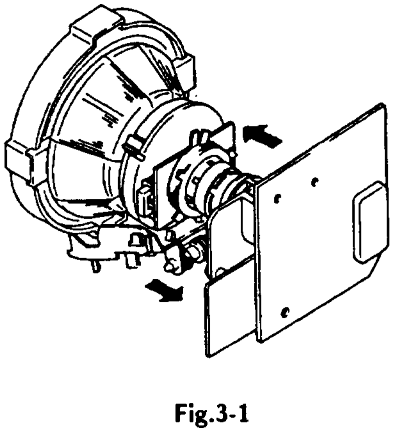
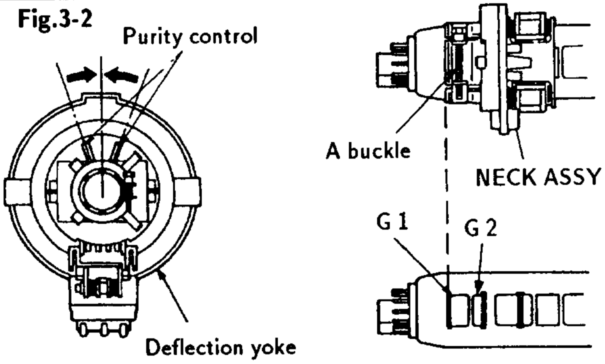


Fig.3-1

Fig.3-2



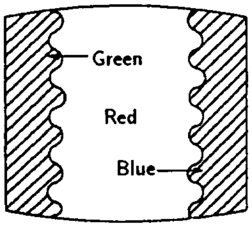
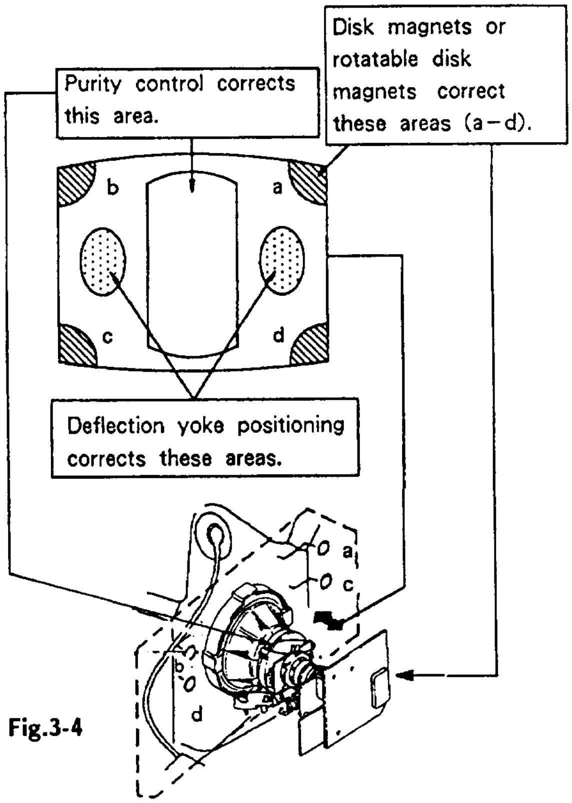


Fig.3-3



Disk magnets or rotatable disk magnets correct these areas (a−d).

Purity control corrects this area.

Deflection yoke positioning corrects these areas.

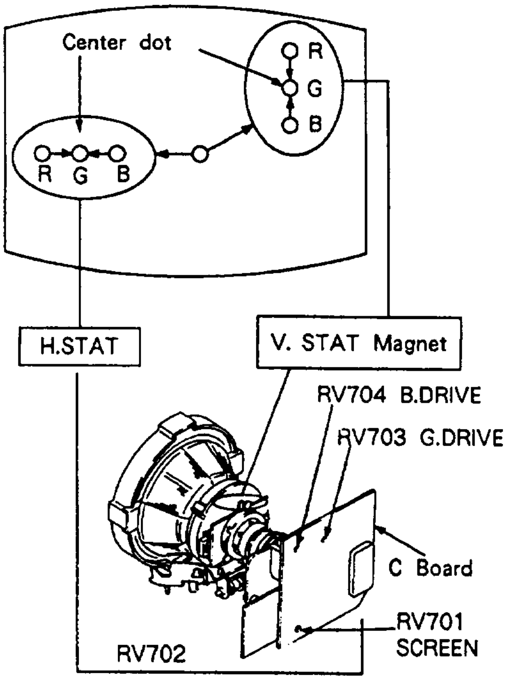
Fig.3-4

3-2. CONVERGENCE

Preparations :

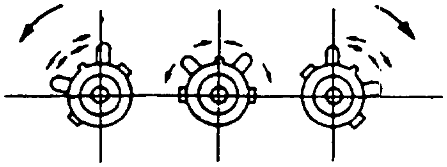
- Before starting this adjustment, adjust the focus, horizontal size, and vertical size.
- Minimize the brightness setting.
- Provide dot pattern.

(1) Horizontal and vertical static convergence

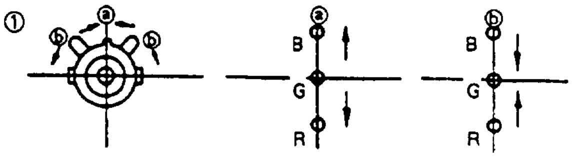

Center dot
R
G
B
R G B
H.STAT
V. STAT Magnet
RV704 B.DRIVE
RV703 G.DRIVE
C Board
RV701
SCREEN
RV702

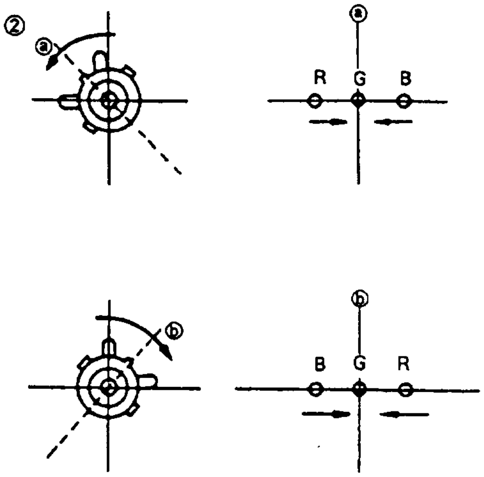
1. (Moving horizontally), adjust the H.STAT control so that the red, green, and blue points are on top of each other at the center of the screen.
2. (Moving vertically), adjust the V.STAT magnet so that the red, green, and blue points are on top of each other at the center of the screen.
3. If the H.STAT variable resistor cannot bring the red, green, and blue points together at the center of the screen, adjust the horizontal convergence with the H.STAT variable resistor and the V. STAT magnet in the manner given below.
   (In this case, the H.STAT variable resistor and the V.STAT magnet influence each other)

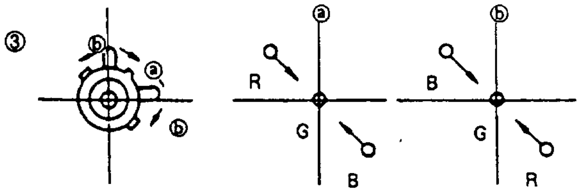
- Tilt the V.STAT magnet and adjust the static convergence by opening or closing the V.STAT magnet.



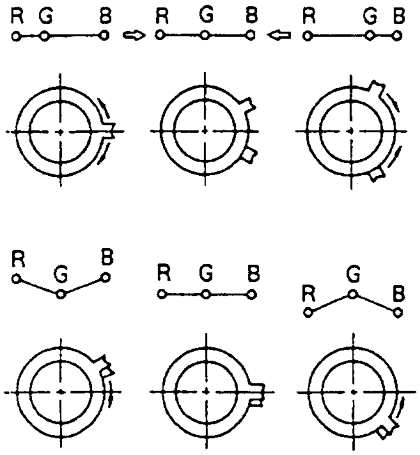
4. If the V.STAT magnet is moved in the direction of the ⓐ and ⓑ arrows, the red, green, and blue points move as shown below.



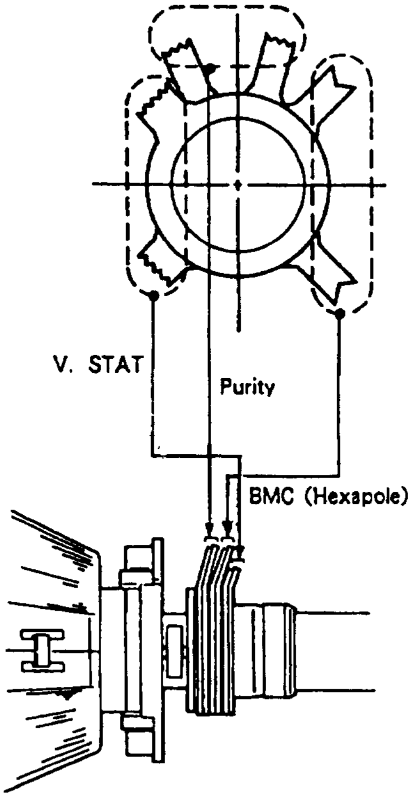




- Operation of BMC (Hexapole) Magnet


R G B
R G B
R G B
R G B
R G B
R G B

- The respective dot positions resulting from moving each magnet interact, so be sure to perform adjustment while tracking.
  Use the H.STAT VR to adjust the red, green, and blue dots so they coincide at the center of screen (by moving the dots in the horizontal direction).

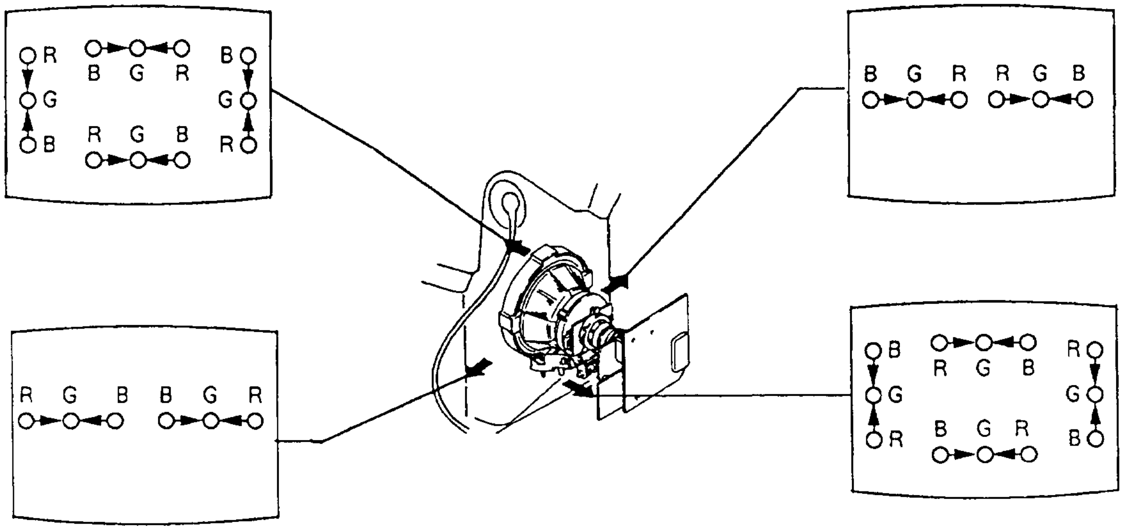

V. STAT
Purity
BMC (Hexapole)

(2)Dynamic convergence adjustment

Preparations :

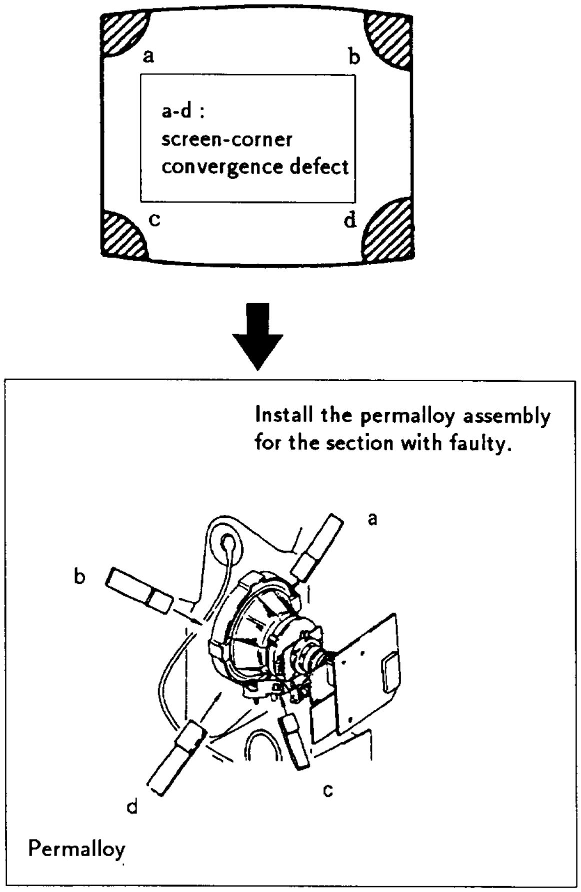
- Before starting this adjustment, adjust the horizontal static convergence and the vertical static convergence.

1. Slightly loosen the deflection yoke screws.
2. Remove the deflection yoke spacer.
3. Move the deflection yoke as shown in the figure below and optimize the convergence.
4. Tighten the deflection yoke screws.
5. Install the deflection yoke spacer.


R
G
B
B G R
R G B
B
G
R
B G R R G B
R G B B G R
B
G
R
R G B
B G R
R
G
B

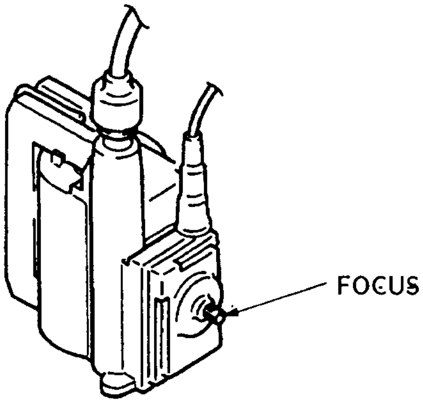
(4) Screen corner convergence

If you cannot adjust corner convergence properly, correct them with permalloy.



3-3. FOCUS

Adjust the focus to optimize the screen.



3-4. WHITE BALANCE

Screen G2 Setting

1. Input the dot signal from the pattern generator.
2. Set the picture brightness control to its lowest level.
3. Apply 180V DC to the R,G, and B cathodes with an external power supply.
4. While watching the picture, adjust G 2 control RV 701 (Screen) to the point just before the return lines disappear.

White balance adjustment

1. Receive all-white signal.
2. Enter into service mode. (Refer to the section 4 "Electrical Adjustment" to how to enter service mode.)
3. Select CXA1587S on menu.

09	SUB BRIGHT	ADJ.
10	SUB HUE	7
11	VM LEVEL	2
12	NR LEVEL	0
13	ABL MODE	0
14	G-DRIVE	ADJ.
15	B-DRIVE	ADJ.
16	G-AUTO CUT OFF	ADJ.
17	B-AUTO CUT OFF	ADJ.
18	R-MANUAL CUT OFF	ADJ.
19	G-MANUAL CUT OFF	ADJ.
20	B-MANUAL CUT OFF	ADJ.

4. Set picture to MAX.
5. Adjust G-DRIVE B-DRIVE with ▲, ▼ buttons so that the white balance becomes optimum.
6. Press OK button to write the data for each item.
7. Set picture to MIN.
8. Adjust G-AUTO CUT OFF, B-AUTO CUT OFF, R-MANUAL CUT OFF, G-MANUAL CUT OFF and B-MANUAL CUT OFF with ▲, ▼ buttons so that the white balance becomes optimum.
9. Press OK button to write the data for each item.

SECTION 4
CIRCUIT ADJUSTMENTS

4-1. ELECTRICAL ADJUSTMENTS

Service adjustment to this model can be performed with the supplied remote commander RM-830.

HOW TO ENTER INTO SERVICE MODE

1. Turn on the main power switch of the set while pressing any two buttons on the front panel.

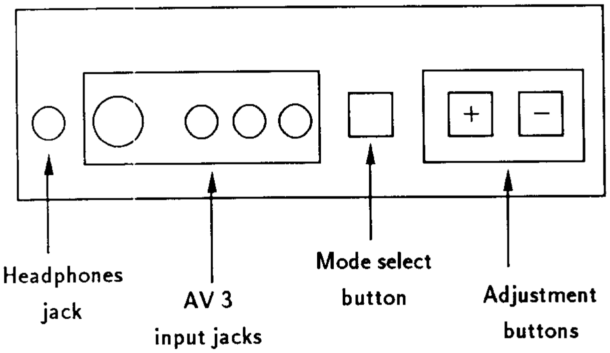


Fig.4-1

2. "TT" will appear on the upper right corner of the screen.

Command operation in service mode

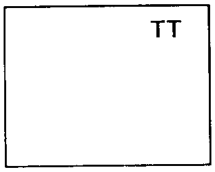


Fig.4-2

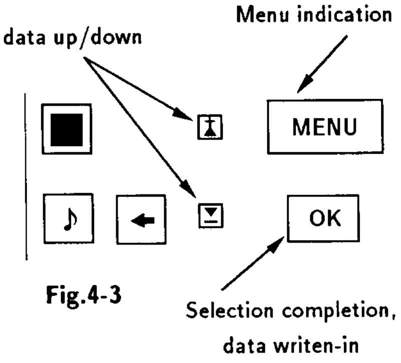

Item selection, data up/down
Menu indication
MENU
OK
Selection completion, data writen-in

Fig.4-3

3. Press the MENU button of the commander to get the menu on screen.

MAIN MENU
Programme Table
Video Connection
Picture Control
Sound Control
Timer
Preset
Language
> DEMO
Select < > and press OK

Fig.4-4

4. Press the ▲ and ▼ buttons of the commander and move > to DEMO.
5. Press OK button to proceed to the next menu.
6. The menu of fig.4-5 will appear on screen. Select DEVICE corresponding to the adjustment item from the table on next page.

DEVICE
Initialize
> CXA 1587S
CXD 2018
TDA 9145
TDA 1526
TDA 6612
CXA 7948 A
P/P service
Select < > and press OK

Fig.4-5

7. If adjustment item is CXA1587S, press the ▼ button and move > to CXA1587S.

CXA 1587 S

Item No.	Adjustment item	Data Amout
01	PICTURE	3
02	COLOR	1
03	BRIGHT	1
04	HUE	1
05	SHARPNESS	7
06	RGB PICTURE	3
07	SUB CONTRAST	ADJ.
08	SUB COLOR	ADJ.
> 09	SUB BRIGHT	ADJ.
10	SUB HUE	7
11	VM LEVEL	2
12	NR LEVEL	0
13	ABL MODE	0
14	G-DRIVE	ADJ.
15	B-DRIVE	ADJ.

8. Press OK button to get the next selection menu.
9. Press ▼ button and move > to the adjustment item and press OK button.
10. Press the ▲ and ▼ buttons to change the data in order to comply each standard.
11. Press OK button to write data.
12. Turn off the power to quit service mode when completing the adjustment.

CXA 1587 S

01	PICTURE	53
02	COLOR	31
03	BRIGHT	31
04	HUE	31
05	SHARPNESS	7
06	RGB PICTURE	13
07	SUB CONTRAST	ADJ.
08	SUB COLOR	ADJ.
09	SUB BRIGHT	ADJ.
10	SUB HUE	7
11	VM LEVEL	2
12	NR LEVEL	0
13	ABL MODE	0
14	G-DRIVE	ADJ.
15	B-DRIVE	ADJ.
16	G-AUTO CUT OFF	ADJ.
17	B-AUTO CUT OFF	ADJ.
18	R-MANUAL CUT OFF	ADJ.
19	G-MANUAL CUT OFF	ADJ.
20	B-MANUAL CUT OFF	ADJ.
21	GAMMA LEVEL	0
22	DC TRANSFER RATIO	3
23	DINAMIC PICTURE	0
24	Y FILTER ADJ	ADJ.
25	Y DELAY TIME	15
26	Y DELAY SWITCH 1	0
27	Y DELAY SWITCH 2	1
28	SHARPNESS LIMIT	ON
29	ALL BLK	OFF
30	H SHIFT	32
31	DAC TEST	ON
32	PRE/OVER SHOOT	7
33	SHARPNESS FO	2
34	SUB SHARPNESS	3
35	R MUTE	OFF
36	G MUTE	OFF
37	B MUTE	OFF
38	AGING 1	OFF
39	AGING 2	OFF
40	AKB OFF	ON
41	INHIBIT RGB	OFF
42	FORCED RGB	OFF
43	V/2 V	OFF
44	AXIS	PAL
45	HUE SW	OFF
46	V EXTENTION	OFF
47	AFC 1	1
48	AFC 2	0
49	AFC OFF	ON
50	REF.POSITION	0

CXD 2018 Q

01	V SIZE	ADJ.
02	V SHIFT	ADJ.
03	S CORRECTION	ADJ.
04	V LINEARITY	ADJ.
05	H SIZE	ADJ.
06	PIN AMP	ADJ.
07	TILT	ADJ.
08	UPPER CORNER	ADJ.
09	LOWER CORNER	ADJ.
10	V BOW	ADJ.
11	ANGLE	ADJ.
12	HV COMP.V	13
13	HV COMP.H	8
14	FRAME SHIFT	OFF
15	FREE RUN 60 Hz	OFF
16	SYSTEM 60 Hz	OFF
17	ASPECT WIDE	OFF
18	DOUBLE SCAM	OFF
19	INTERLACE	ON
20	H SHIFT	32
21	N/S CORRECTION	ADJ.

Typical Value (OSD based)when receiving PAL Philips pattern.

TDA 6612	ADJ.
Stereo-Separation	(30)

Should be adjusted twice 4 : 3 and 16 : 9 mode.

Y FILTER ADJUSTMENT

1. Input PAL RED pattern.
2. Connect an oscilloscope to CN 0403 ① pin (R OUT) on the C board.
3. Enter into service mode and press 3, 8.
4. Adjust data by △ or ▽ to minimize the chroma element of CN 0403 ① pin.

SUB BRIGHTNESS ADJUSTMENT

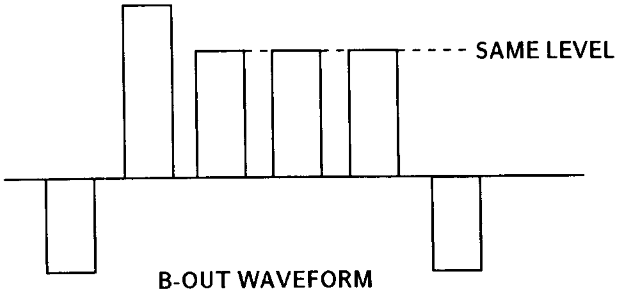
1. Input Phillips pattern.
2. Enter into service mode and press 23.
3. Adjust data so that 0-IRE of the grey scale and CUT -OFF 20-IRE glitter slightly.

SUB CONTRAST ADJUSTMENT

1. Input a video that contains small 100% area on the Black Back ground.
2. Enter into service mode and press 01 to have PIC max followed by 21.
3. Adjust data so that 2.5 Vp-p can be obtained at ① CN 0403 (R out).

SUB COLOR ADJUSTMENT

1. Input PAL color bar.
2. Connect an oscilloscope to CN 0403 ③ pin (B OUT) on the C board.
3. Enter into service mode and press 22 of CXA1587S, 8 SUB COLOR.
4. Adjust data so that the right sides of the waveform will be the same.



B-OUT WAVEFORM

STEREO-SEPARATION ADJUSTMENT

1. Input 1 kHz stereo signal to the L-ch and 400 Hz stereo signal to the R-ch.
2. Enter into service mode and press 19.
3. Adjust data so that sound does not leak to the R-ch and the L-ch.

DRIVE AND CUT OFF

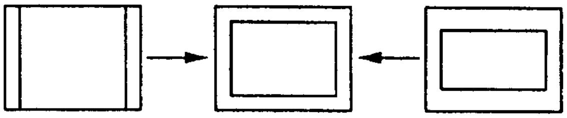
See direct test mode list attached and refer to sub brightness or such for adjustment method.

DEFLECTION SYSTEM ADJUSTMENT

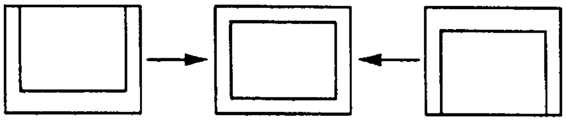
1. Enter into service mode and select CXD 2018.
2. Select and adjust each item in order to get an optimum image.

01	V SIZE	ADJ.
02	V SHIFT	ADJ.
03	S CORRECTION	ADJ.
04	V LINEARITY	ADJ.
05	H SIZE	ADJ.
06	PIN AMP	ADJ.
07	TILT	ADJ.
08	UPPER CORNER	ADJ.
09	LOWER CORNER	ADJ.
10	V BOW	ADJ.
11	ANGLE	ADJ.
12	HV COMP.V	13
13	HV COMP.H	8
14	FRAME SHIFT	OFF
15	FREE RUN 60 Hz	OFF
16	SYSTEM 60 Hz	OFF
17	ASPECT WIDE	OFF
18	DOUBLE SCAM	OFF
19	NON INTERLACE	ON
20	H SHIFT	32
21	N/S CORRECTION	ADJ.

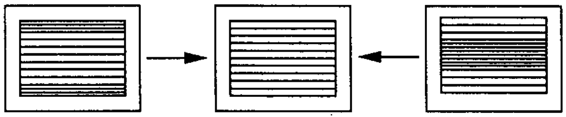
V SIZE



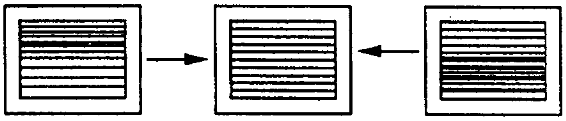
V SHIFT



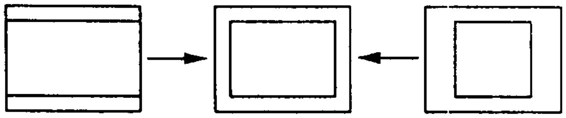
S CORRECTION



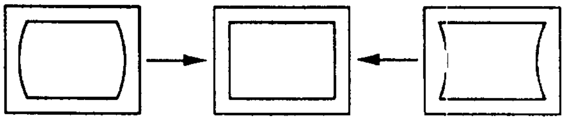
V LINEARITY



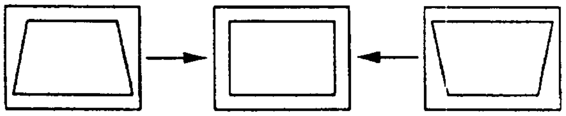
H SIZE



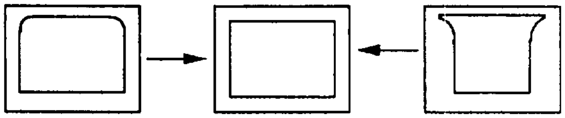
PIN AMP



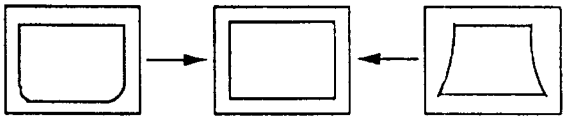
TILT



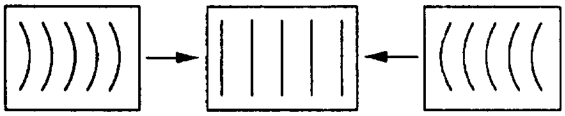
UPPER CORNER PIN



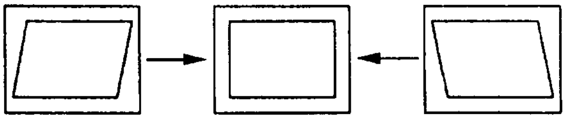
LOWER CORNER PIN



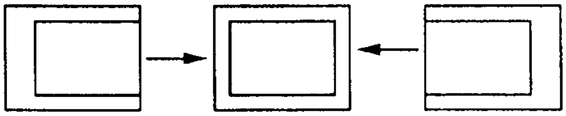
V BOW



ANGLE



H SHIFT



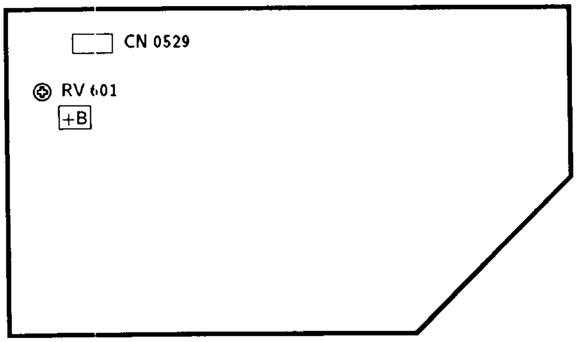
3. Press OK button to write the data.

If menu display may disturb the adjustment press ⌧ to clear, to resume it, press ⌧ again.

4-2. VOLUME ELECTRICAL ADJUSTMENTS

+B (+135 V) ADJUSTMENT (RV 601)

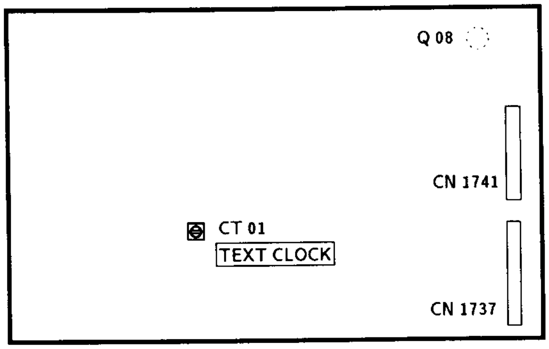
D BOARD



1. Turn on the power of the TV set.
2. Connect a digital multi-meter to ① pin of CN 0529 on D board.
3. Adjust RV 601 on D board to +135 V.

TEXT CLOCK ADJUSTMENT (CT 01)

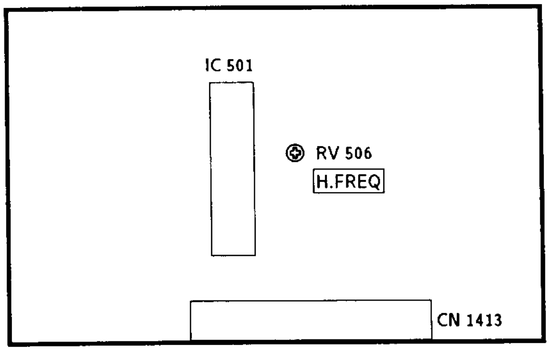
V BOARD



1. Get TEXT MENU on screen.
2. Connect GND and the base of Q 08 on V board.
3. Adjust CT 01 on V board so that the MENU stands still as much as possible.

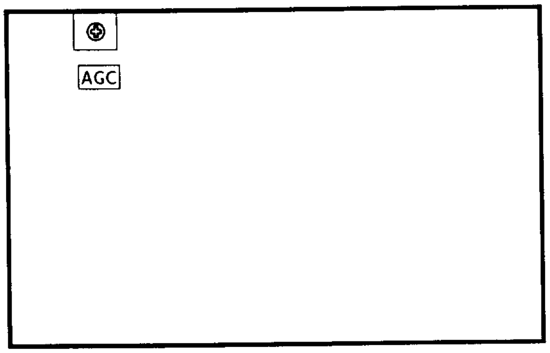
H.FREQ ADJUSTMENT (RV 506)

M BOARD



1. Connect GND to ⑫ pin of IC 501 on M board.
2. Connect a frequency counter to ④ pin of IC 501.
3. Adjust RV 506 on M board to 15,625+100 Hz.
4. Remove ⑫ pin of IC 501 from GND.

AGC ADJUSTMENT (IF BLOCK)



1. Receive off-air signal.
2. Adjust AGC VR so that there is no snow noise and cross-modulation.
3. Change receiving channel and confirm status.

4-3. TEST MODE 2 :

Is available by pressing Test button two times, OSD "TT"appears. The functions described bellow are available by pressing the two numbors. To release the Test Mode 2, press two times 0, or switch TV in Standby Mode.

00	switch Test Mode 2 off
01	picture maximum
02	picture minimum
03	Volume 35%
04	Volume 50%
05	Volume 65%
06	Volume 80%
07	Aging Condition (Volumin., Picture max., Brightness max., Aging 2 Mode of CXA 1587S, TDA 2595 is locked to CXA 1587S via PIN 34 of μ Con.)
08	Shipping Condition (Analog Values are RESET due to factory setting, Prog 1 is selected, TT Mode is switched off)
09	dummy
10	Tenth entry is deleted
11	Balance
12	Hue
13-14	dummy
15	Read factory setting from NVM Reads Volume, Balance, Treble, Bass, Brightness, Contrast, Hue, Sharpness, Colour values from ROM to the actual used values (Last Power Memory)
16	Save actual used values as RESET values Memorize actual used values Balance, Treble, Bass, Hue, Sharpness at RESET position in NVM
17	Preset Lavel for AV Sources
18	dummy
19	Stereo Seperation
20	Tenth entry is deleted
21	Sub Contrast
22	Sub Colour
23	Sub Brightness
24-29	dummy

30	Tenth entry is deleted
31	Green Drive
32	Blue Drive
33	Green Cut Off (Auto Cut Off)
34	Blue Cut Off (Auto Cut Off)
35	Red Cut Off (Manual Cut Off) (Auto Cut Off is switched off)
36	Green Cut Off (Manual Cut Off) (Auto Cut Off is switched off)
37	Blue Cut Off (Manual Cut Off) (Auto Cut Off is switched off)
38	Y-Filter adjustment (Trap is switched off and TDA 9145 is switched in forced NTSC Mode)
39	dummy
40	Tenth entry is deleted
41	Default setting of CXA 1587S (Only in Plog 99 available)
42	Default setting of CXA 2018 (Only in Plog 99 available)
43	Default setting of CXA 1526 (Only in Plog 99 available)
44	(all Port High) Not yet
45	(all Port High) Not yet
46-48	dummy
49	Erease the NVM Testbyte (this byte detects already stored NMV's) After selecting this function, switch TV Off and On → the NVM will be preset by μ-Controller. (Not the channel data)

Note : For No. 35, 36, 37 and 38 special pressing (AKB, forced Color Mode, Trap) is selected. After selecting a new Test Mode Number, the AKB is switched ON, the Trap is switched On and TDA 9145 is switched to Auto Search Mode.

In Test Mode 2 the Menu display is switchable by Speaker-Off button.

4-4. ERROR MESSAGE

Self diagnos system can operates as follows.

- When MP can't get the acknowledge back from the device, LED starts flashing according to the table as attached.

In case of more errors in parallel, the blinking error shows max. Priority according to the error number (e.g. error 2 and error 5 appears together, then LEDs shows error 2) .

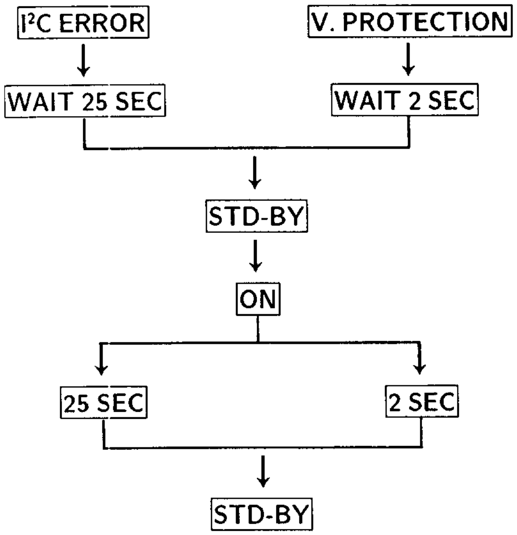


TABLE OF ERRORS

ERROR COUNT	IC TYPE	FUNCTION
1	Ⅱ C BUS	SDA low
2	X 24 C 16	EEPROM
3	SDA 3202	Tuner Pll
4	TDA 9145	Colour decoder
5	CXA1587S	RGB/Jungle
6	TDA 6612	Sound processor
7	CXD 2018	V deflection
8	CXA 1545	AV switch
11	SDA 5248	Text
13		V protection

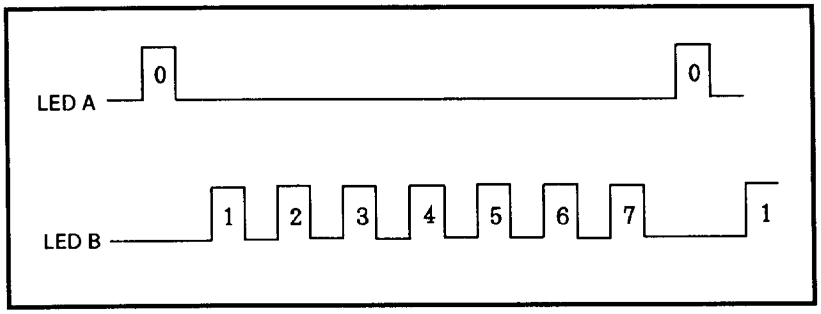
Stand by LED blinking

No IK return

4-5. ERROR Ⅱ C BUS DIAGNOSIS SYSTEM IN AE 2 CHASSIS AVAILABLE

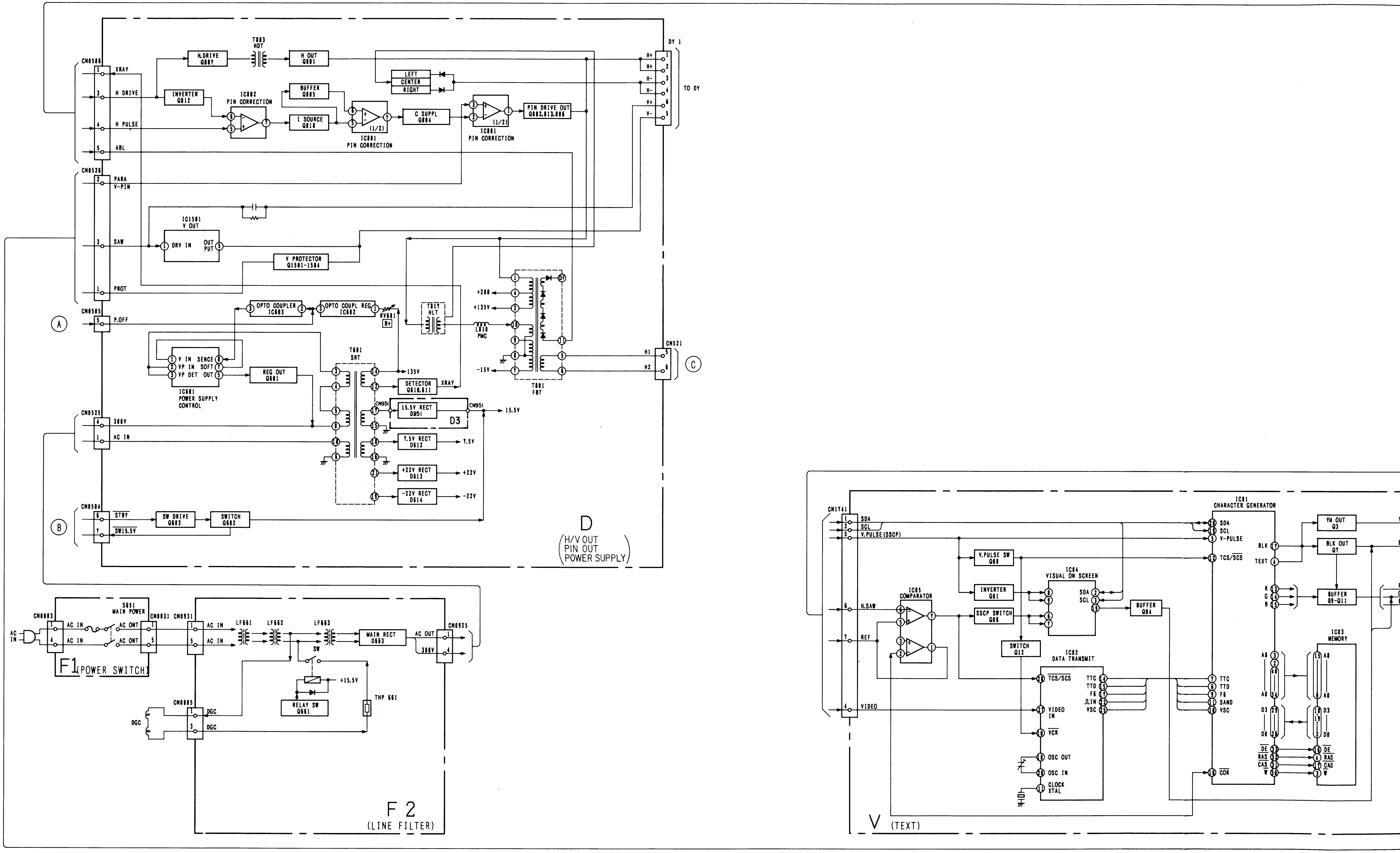
For all ICs in AE 2 chassis which are necessary to get picture and sound there is a built in error I^2C Bus diagnosis system.

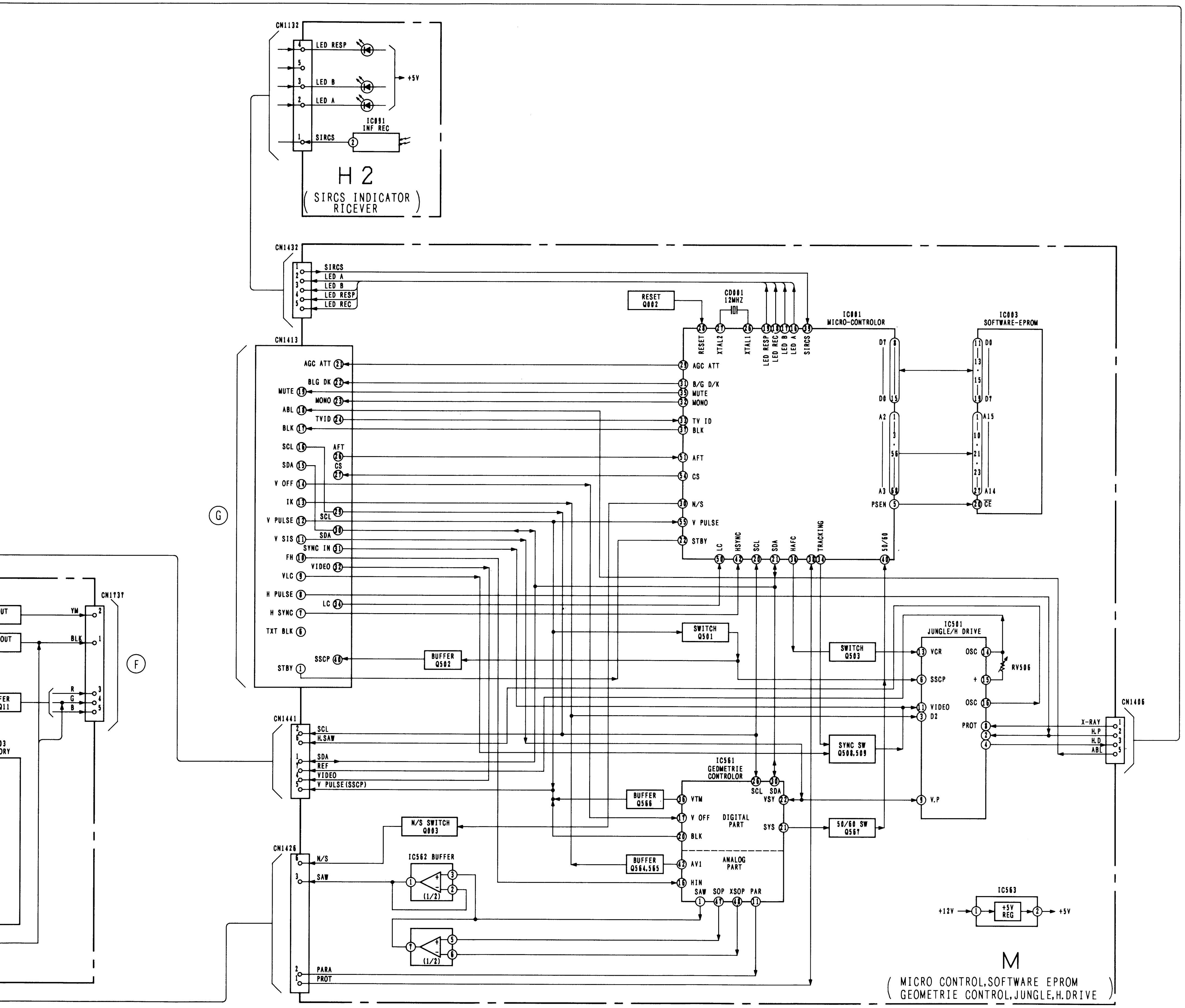
In case of no acknowledge bit, LED A and LED B starts blinking as shown.



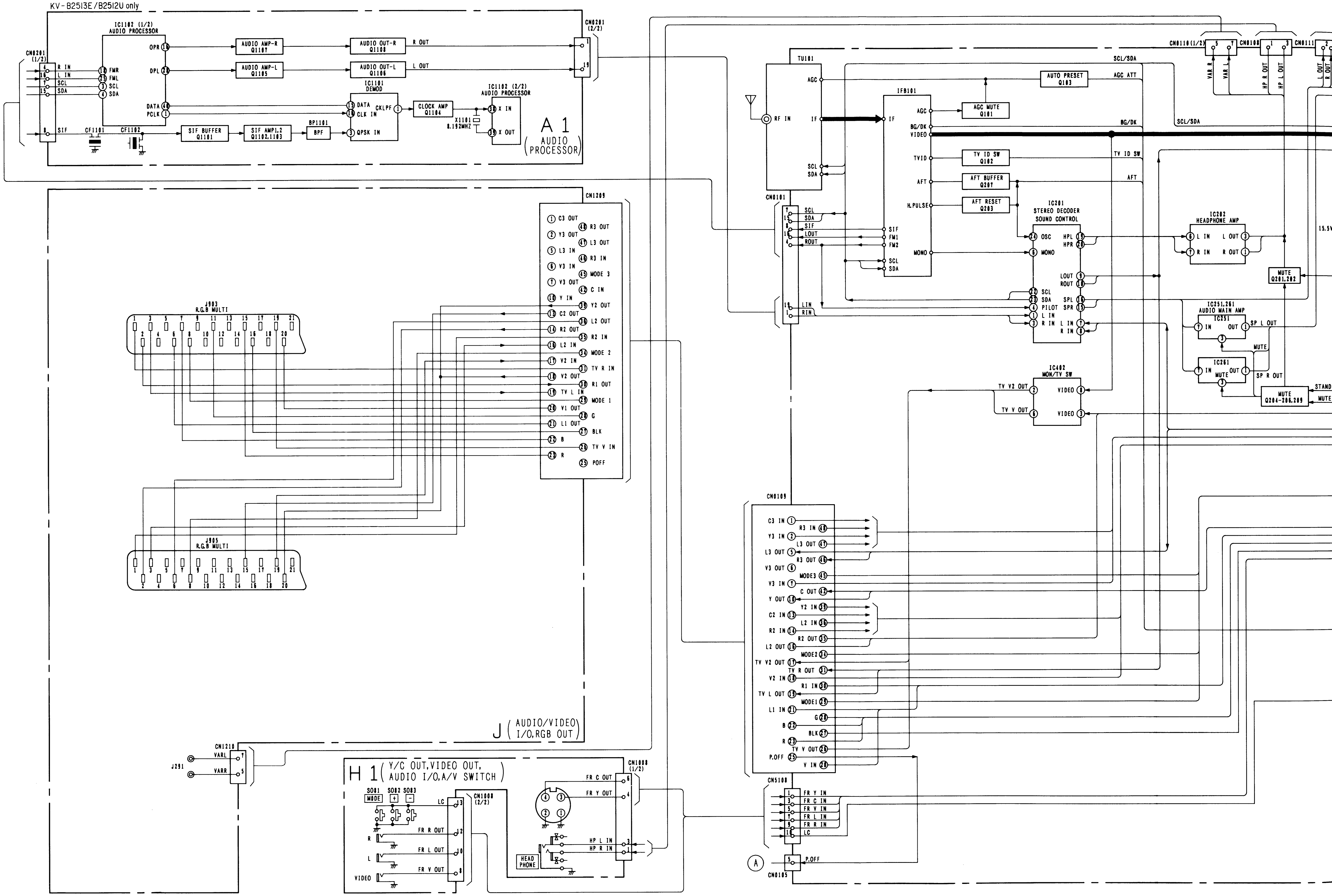
SECTION 5
DIAGRAMS

5-1. BLOCK DIAGRAM (1)

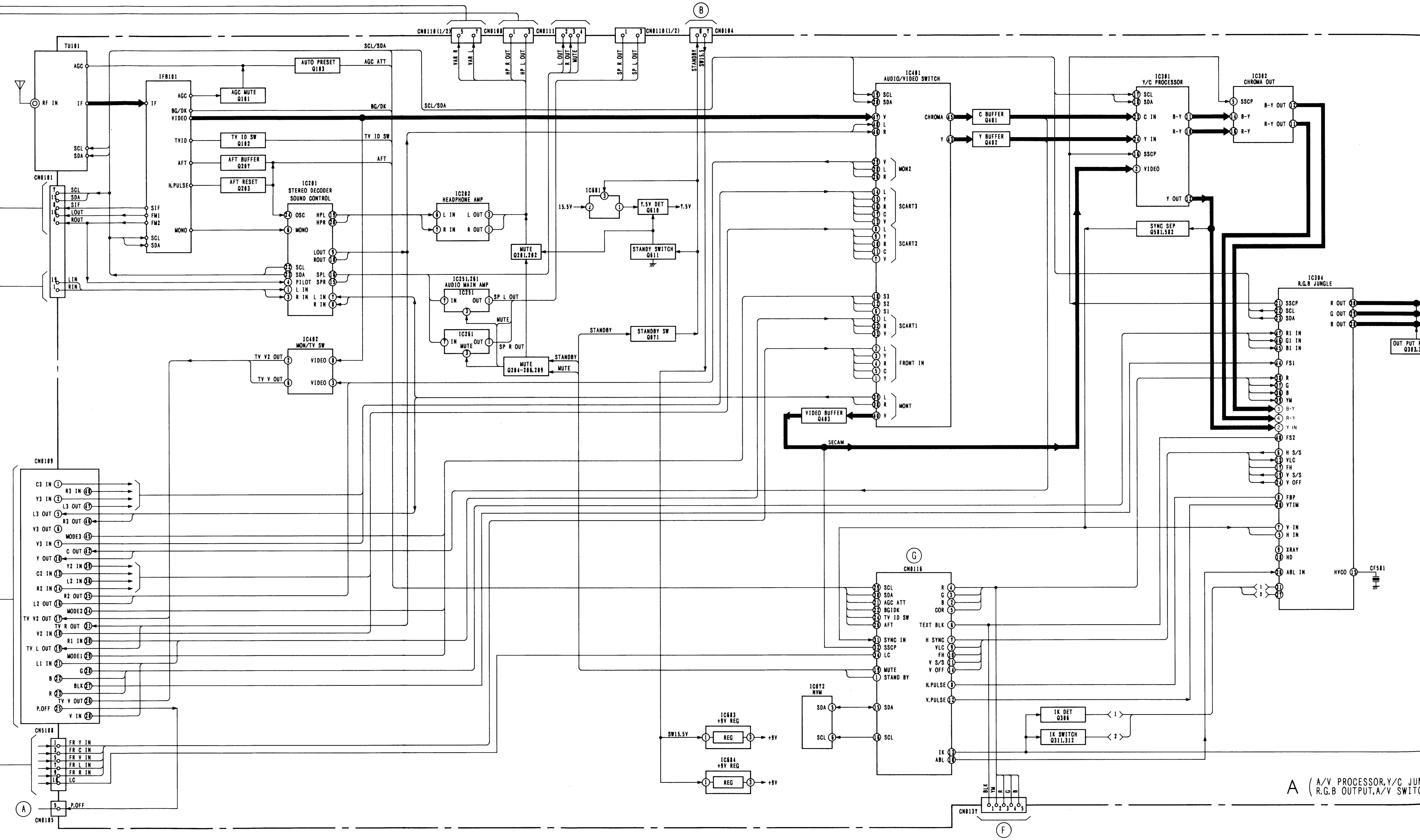

CN0506
XRAY
H DRIVE
H PULSE
ABL
H.DRIVE Q807
T803 HDT
H OUT Q801
INVERTER Q812
IC802 PIN CORRECTION
BUFFER Q805
I SOURCE Q810
C SUPPL Q804
IC801 PIN CORRECTION
(1/2)
LEFT
CENTER
RIGHT
PIN DRIVE OUT Q802,813,806
DY 1
H+
H-
V+
V-
TO DY
CN0526
PARA V-PIN
SAW
PROT
IC1501 V OUT
DRV IN
OUT PUT
V PROTECTOR Q1501-1504
CN0505
P.OFF
A
OPTO COUPLER IC603
OPTO COUPL REG IC602
RV601
B+
T817 HLT
L810 PMC
+200
+135V
-15V
T801 FBT
CN521
H1
H2
C
IC601 POWER SUPPLY CONTROL
V IN
VP IN
VP DET
SENCE
SOFT
OUT
REG OUT Q601
T601 SRT
135V
DETECTOR Q610,611
CN951
15.5V RECT D951
D3
15.5V
7.5V RECT D612
7.5V
+22V RECT D613
+22V
-22V RECT D614
-22V
CN0525
300V
AC IN
CN0504
STBY
SW15.5V
SW DRIVE Q603
SWITCH Q602
B
D
(H/V OUT PIN OUT POWER SUPPLY)
CN0803
AC IN
S651 MAIN POWER
AC ONT
CN0831
F1 (POWER SWITCH)
CN0931
LF661
LF662
LF663
MAIN RECT D663
AC OUT
CN0925
300V
SW
+15.5V
RELAY SW Q661
THP 661
CN0805
DGC
F 2 (LINE FILTER)
CN1741
SDA
SCL
V.PULSE (SSCP)
H.SAW
REF
VIDEO
IC05 COMPARATOR
V.PULSE SW Q08
INVERTER Q01
SSCP SWITCH Q06
SWITCH Q12
IC04 VISUAL ON SCREEN
BUFFER Q04
IC02 DATA TRANSMIT
TCS/SCS
VIDEO IN
VCR
OSC OUT
OSC IN
CLOCK XTAL
TTC
TTD
FS
⎍IN
VSC
IC01 CHARACTER GENERATOR
V-PULSE
TCS/SCS
BLK
TEXT
R
G
B
TTC
TTD
FS
SAND
VSC
COR
A8
A0
D3
D0
DE
RAS
CAS
W
YM OUT Q3
BLK OUT Q7
BUFFER Q9-Q11
IC03 MEMORY
V (TEXT)

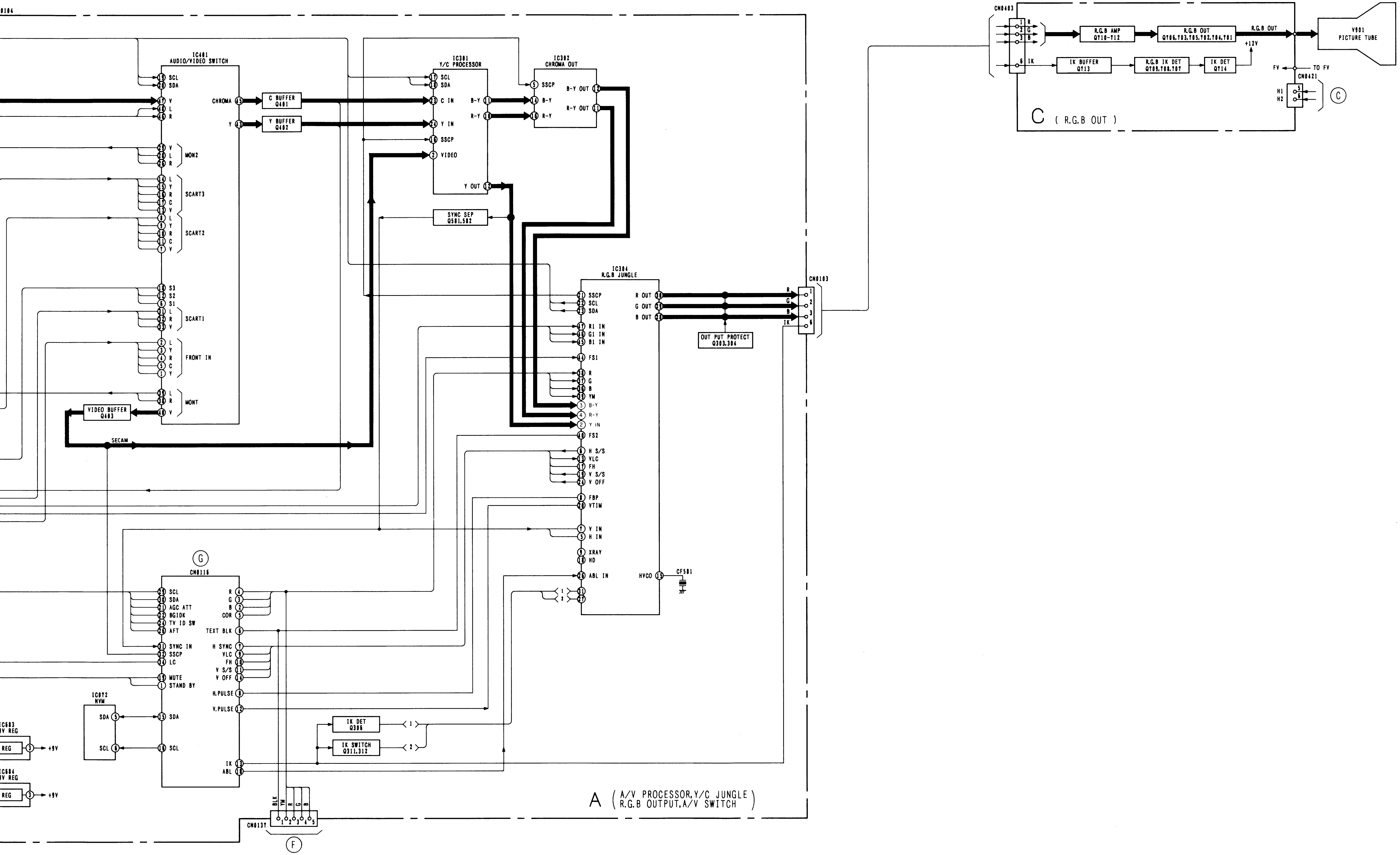

CN1132
LED RESP
LED B
LED A
SIRCS
+5V
IC091
INF REC
H 2
(SIRCS INDICATOR RICEVER)
CN1432
SIRCS
LED A
LED B
LED RESP
LED REC
RESET
Q002
CD001
12MHZ
IC001
MICRO-CONTROLOR
RESET
XTAL2
XTAL1
LED RESP
LED REC
LED B
LED A
SIRCS
AGC ATT
B/G D/K
MUTE
MONO
TV ID
BLK
AFT
CS
N/S
V PULSE
STBY
LC
HSYNC
SCL
SDA
HAFC
TRACKING
50/60
D7
D0
A2
A3
PSEN
IC003
SOFTWARE-EPROM
D0
D7
A15
A14
CE
CN1413
AGC ATT
BLG DK
MUTE
MONO
ABL
TVID
BLK
SCL
AFT
SDA
CS
V OFF
IK
V PULSE
SCL
V SIS
SDA
SYNC IN
FH
VIDEO
VLC
H PULSE
LC
H SYNC
TXT BLK
SSCP
STBY
G
BUFFER
Q502
SWITCH
Q501
SWITCH
Q503
IC501
JUNGLE/H DRIVE
VCR
SSCP
VIDEO
D2
V.P
OSC
+
OSC
PROT
RV506
CN1406
X-RAY
H.P
H.D
ABL
SYNC SW
Q508,509
CN1437
YM
BLK
R
G
B
F
CN1441
SCL
H.SAW
SDA
REF
VIDEO
V PULSE(SSCP)
IC561
GEOMETRIE
CONTROLOR
SCL
SDA
BUFFER
Q566
VTM
V OFF
BLK
DIGITAL PART
VSY
SYS
50/60 SW
Q567
BUFFER
Q564,565
AV1
HIN
ANALOG PART
SAW
SOP
XSOP
PAR
N/S SWITCH
Q003
CN1426
N/S
SAW
IC562 BUFFER
(1/2)
(1/2)
PARA
PROT
IC563
+12V
+5V REG
+5V
M
(MICRO CONTROL,SOFTWARE EPROM
GEOMETRIE CONTROL,JUNGLE,H.DRIVE)

5-2. BLOCK DIAGRAM (2)

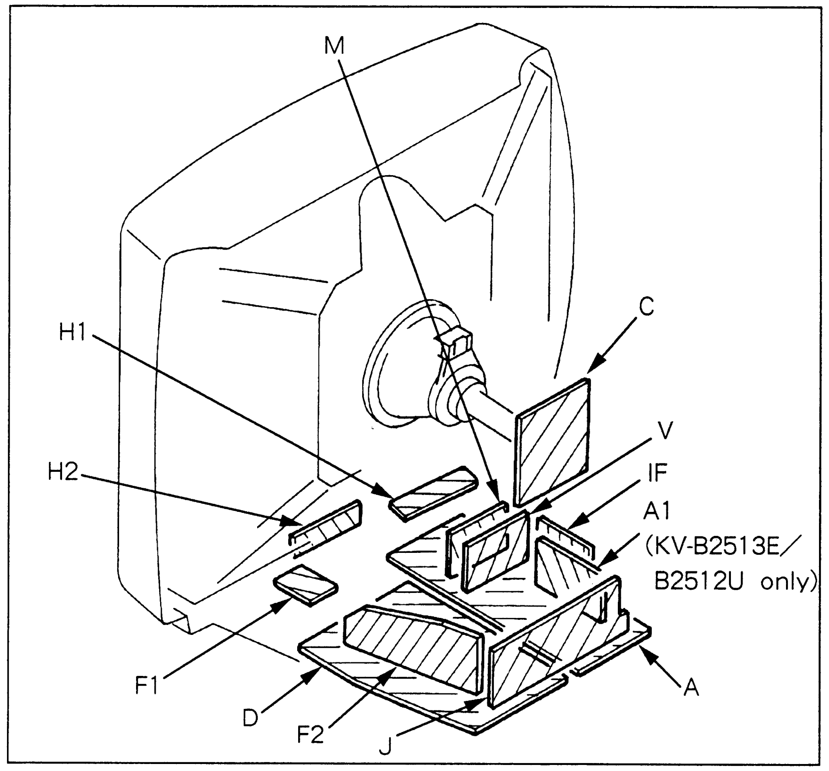


KV-B2513E/B2512U only
IC1102 (1/2) AUDIO PROCESSOR
AUDIO AMP-R Q1107
AUDIO AMP-L Q1105
AUDIO OUT-R Q1108
AUDIO OUT-L Q1106
R OUT
L OUT
CN0201 (2/2)
CN0201 (1/2)
R IN
L IN
SCL
SDA
SIF
FMR
FML
OPR
DPL
DATA
PCLK
IC1101 DEMOD
CKLPF
CLK IN
QPSK IN
CLOCK AMP Q1104
IC1102 (2/2) AUDIO PROCESSOR
X IN
X OUT
X1101 8.192MHZ
CF1101
CF1102
SIF BUFFER Q1101
SIF AMP1,2 Q1102,1103
BP1101
BPF
A 1 (AUDIO PROCESSOR)
CN1209
C3 OUT
Y3 OUT
L3 IN
V3 IN
V3 OUT
Y IN
C2 OUT
R2 OUT
L2 IN
Y2 IN
V2 OUT
TV L IN
V1 OUT
L1 OUT
B
R
R3 OUT
L3 OUT
R3 IN
MODE 3
C IN
Y2 OUT
L2 OUT
R2 IN
MODE 2
TV R IN
R1 OUT
MODE 1
G
BLK
TV V IN
POFF
J903 R.G.B MULTI
J905 R.G.B MULTI
J (AUDIO/VIDEO I/O,RGB OUT)
CN1210
J291
VARL
VARR
H 1 (Y/C OUT,VIDEO OUT, AUDIO I/O,A/V SWITCH)
S001 MODE
S002 +
S003 −
CN1008 (2/2)
CN1008 (1/2)
LC
FR R OUT
FR L OUT
FR V OUT
R
L
VIDEO
FR C OUT
FR Y OUT
HP L IN
HP R IN
HEAD PHONE
TU101
AGC
RF IN
IF
SCL
SDA
CN0101
SIF
LOUT
ROUT
LIN
RIN
IFB101
BG/DK
VIDEO
TVID
AFT
H.PULSE
FM1
FM2
MONO
AGC MUTE Q101
AUTO PRESET Q103
TV ID SW Q102
AFT BUFFER Q207
AFT RESET Q203
SCL/SDA
AGC ATT
TV ID SW
IC201 STEREO DECODER SOUND CONTROL
OSC
HPL
HPR
LOUT
ROUT
PILOT
SPL
SPR
L IN
R IN
IC202 HEADPHONE AMP
L OUT
R OUT
MUTE Q201,202
IC251,261 AUDIO MAIN AMP
IC251
IC261
IN
OUT
MUTE
SP L OUT
SP R OUT
MUTE Q204-206,209
STAND
15.5V
IC402 MON/TV SW
TV V2 OUT
TV V OUT
VIDEO
CN0110 (1/2)
CN0108
CN0111
VAR R
VAR L
HP R OUT
HP L OUT
L OUT
R OUT
CN0109
C3 IN
Y3 IN
L3 OUT
V3 OUT
V3 IN
Y OUT
C2 IN
R2 IN
L2 OUT
TV V2 OUT
V2 IN
TV L OUT
L1 IN
B
R
P.OFF
R3 IN
L3 OUT
R3 OUT
MODE3
C OUT
Y2 IN
L2 IN
R2 OUT
MODE2
TV R OUT
R1 IN
MODE1
G
BLK
TV V OUT
Y IN
CN5108
FR Y IN
FR C IN
FR V IN
FR L IN
FR R IN
LC
A
CN0105
P.OFF


TU101
RF IN
AGC
IF
SCL
SDA
AUTO PRESET Q103
AGC ATT
AGC MUTE Q101
IFB101
BG/DK
VIDEO
TVID
AFT
H.PULSE
MONO
SIF
FM1
FM2
TV ID SW Q102
AFT BUFFER Q207
AFT RESET Q203
SCL/SDA
TV ID SW
CN0101
LOUT
ROUT
LIN
RIN
IC201 STEREO DECODER SOUND CONTROL
OSC
HPL
HPR
PILOT
SPL
SPR
L IN
R IN
IC202 HEADPHONE AMP
L OUT
R OUT
IC251,261 AUDIO MAIN AMP
IC251
IC261
SP L OUT
SP R OUT
MUTE
MUTE Q201,202
MUTE Q204-206,209
STANDBY
IC601
15.5V
7.5V DET Q610
7.5V
STANDY SWITCH Q611
STANDBY SW Q071
IC402 MON/TV SW
TV V2 OUT
TV V OUT
CN0110 (1/2)
CN0108
CN0111
CN0104
VAR R
VAR L
HP R OUT
HP L OUT
L OUT
R OUT
SP R OUT
SP L OUT
SW15.5
B
IC401 AUDIO/VIDEO SWITCH
CHROMA
C BUFFER Q401
Y BUFFER Q402
MON2
SCART3
SCART2
SCART1
FRONT IN
MONT
S3
S2
S1
VIDEO BUFFER Q403
SECAM
IC301 Y/C PROCESSOR
C IN
Y IN
SSCP
B-Y
R-Y
Y OUT
SYNC SEP Q501,502
IC302 CHROMA OUT
B-Y OUT
R-Y OUT
IC304 R.G.B JUNGLE
R OUT
G OUT
B OUT
R1 IN
G1 IN
B1 IN
FS1
YM
FS2
H S/S
VLC
FH
V S/S
V OFF
FBP
VTIM
V IN
H IN
XRAY
HD
ABL IN
HVCO
CF501
OUT PUT
Q303
CN0109
C3 IN
R3 IN
Y3 IN
L3 OUT
L3 OUT
R3 OUT
V3 OUT
MODE3
V3 IN
C OUT
Y OUT
Y2 IN
C2 IN
L2 IN
R2 IN
R2 OUT
L2 OUT
MODE2
TV V2 OUT
TV R OUT
V2 IN
R1 IN
TV L OUT
MODE1
L1 IN
G
B
BLK
R
TV V OUT
P.OFF
V IN
CN5108
FR Y IN
FR C IN
FR V IN
FR L IN
FR R IN
LC
A
P.OFF
CN0105
G
CN0116
SCL
SDA
AGC ATT
BGIDK
TV ID SW
AFT
SYNC IN
SSCP
LC
MUTE
STAND BY
COR
TEXT BLK
H SYNC
VLC
FH
V S/S
V OFF
H.PULSE
V.PULSE
IK
ABL
IC072 NVM
IC603 +9V REG
IC604 +9V REG
REG
SW15.5V
+9V
IK DET Q306
IK SWITCH Q311,312
CN0137
BLK
YM
R
G
B
F
A (A/V PROCESSOR,Y/C JUN
R.G.B OUTPUT,A/V SWITC


0104
IC401
AUDIO/VIDEO SWITCH
SCL
SDA
V
L
R
CHROMA
Y
MON2
SCART3
SCART2
S3
S2
S1
SCART1
FRONT IN
MONT
C BUFFER
Q401
Y BUFFER
Q402
VIDEO BUFFER
Q403
SECAM
IC301
Y/C PROCESSOR
C IN
Y IN
SSCP
VIDEO
B-Y
R-Y
Y OUT
SYNC SEP
Q581,582
IC302
CHROMA OUT
B-Y OUT
R-Y OUT
IC304
R.G.B JUNGLE
R1 IN
G1 IN
B1 IN
FS1
YM
FS2
H S/S
VLC
FH
V S/S
V OFF
FBP
VTIM
V IN
H IN
XRAY
HD
ABL IN
HVCO
CF581
R OUT
G OUT
B OUT
OUT PUT PROTECT
Q303,304
CN0103
IK
G
CN0116
AGC ATT
BGIDK
TV ID SW
AFT
SYNC IN
LC
MUTE
STAND BY
COR
TEXT BLK
H SYNC
H.PULSE
V.PULSE
ABL
IC072
NVM
IC683
V REG
REG
+9V
IC684
V REG
IK DET
Q306
IK SWITCH
Q311,312
BLK
CN0137
F
A (A/V PROCESSOR,Y/C JUNGLE R.G.B OUTPUT,A/V SWITCH)
CN0403
R.G.B AMP
Q710-712
R.G.B OUT
Q706,703,705,702,704,701
IK BUFFER
Q713
R.G.B IK DET
Q709,708,707
IK DET
Q714
+12V
V901
PICTURE TUBE
FV
TO FV
CN0421
H1
H2
C
C (R.G.B OUT)

5-3. CIRCUIT BOARDS LOCATION


M
H1
H2
C
V
IF
A1
(KV-B2513E/
B2512U only)
F1
D
F2
J
A

5-4. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

Note :

- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytic.
- Indication of resistance, which dose not have one for rating electrical power, is as follows.

Pitch : 5mm
Rating electrical power : ¼W

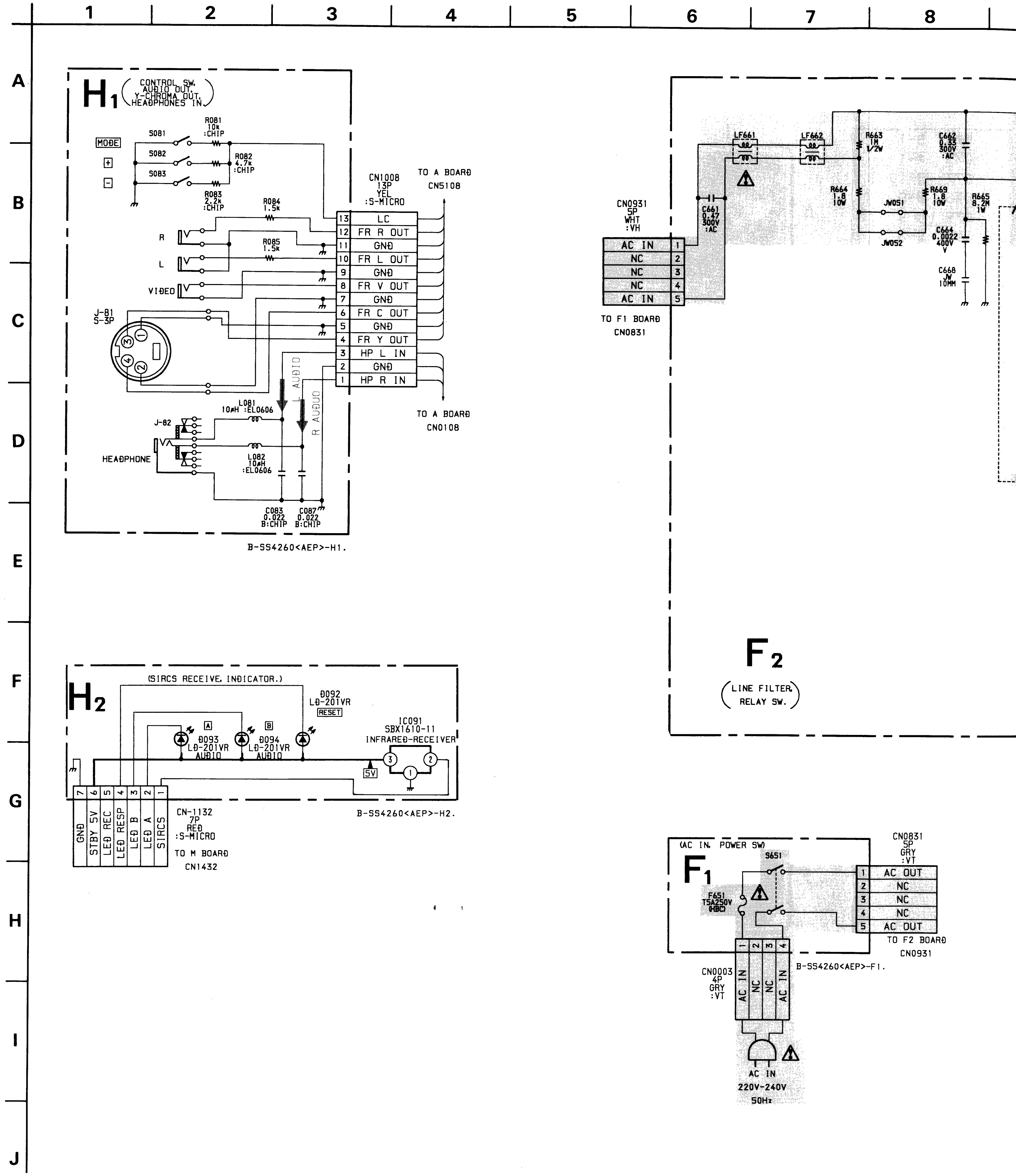
- Chip resistor is in 1/10W.
- All resistors are in ohms. kΩ = 1000Ω, MΩ = 1000KΩ
- : nonflammable resistor.
- : fusible resistor.
- △ : internal component.
- ☐ : panel designation or adjustment for repair.
- All variable and adjustable resistors have charactristic curve B, unless otherwise noted.
- All voltages are in V.
- Readings are taken with a 10MΩ digital multimeter.
- Readings are taken with a color-bar signal input.
- Voltage variations may be noted due to normal production tolerances.
- ━ : B+ bus.
- ╍ : B− bus.
- ➡ : signal path.(RF)
- ⊥ : earth - ground
- ⏚ : earth - chassis

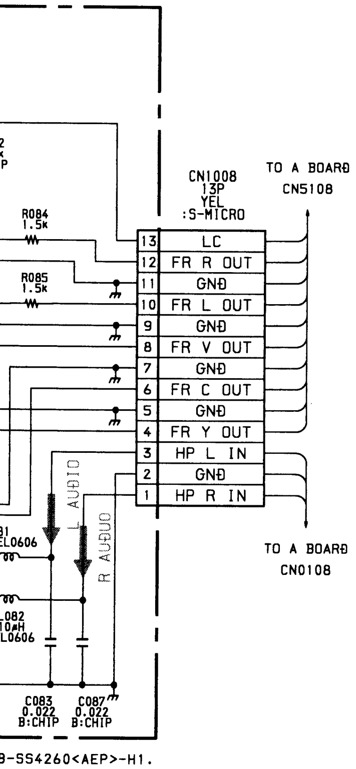
Reference information

RESISTOR	RN	: METAL FILM
	RC	: SOLID
	FPRD	: NONFLAMMABLE CARBON
	FUSE	: NONFLAMMABLE FUSIBLE
	RS	: NONFLAMMABLE METAL OXIDE
	RB	: NONFLAMMABLE CEMENT
	RW	: NONFLAMMABLE WIREWOUND
	※	: ADJUSTMENT RESISTOR
COIL	LF-8L	: MICRO INDUCTOR
CAPACITOR	TA	: TANTALUM
	PS	: STYROL
	PP	: POLYPROPYLENE
	PT	: MYLAR
	MPS	: METALIZED POLYESTER
	MPP	: METALIZED POLYPROPYLENE
	ALB	: BIPOLAR
	ALT	: HIGH TEMPERATURE
	ALR	: HIGH RIPPLE

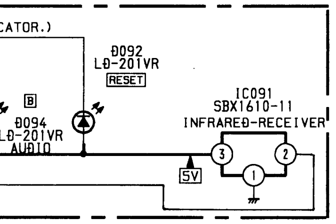
Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par une trame et par une marque ⚠ sont d'une importance critique pour la sécurité. Ne les remplacer que par des pièces de numéro spécifié.

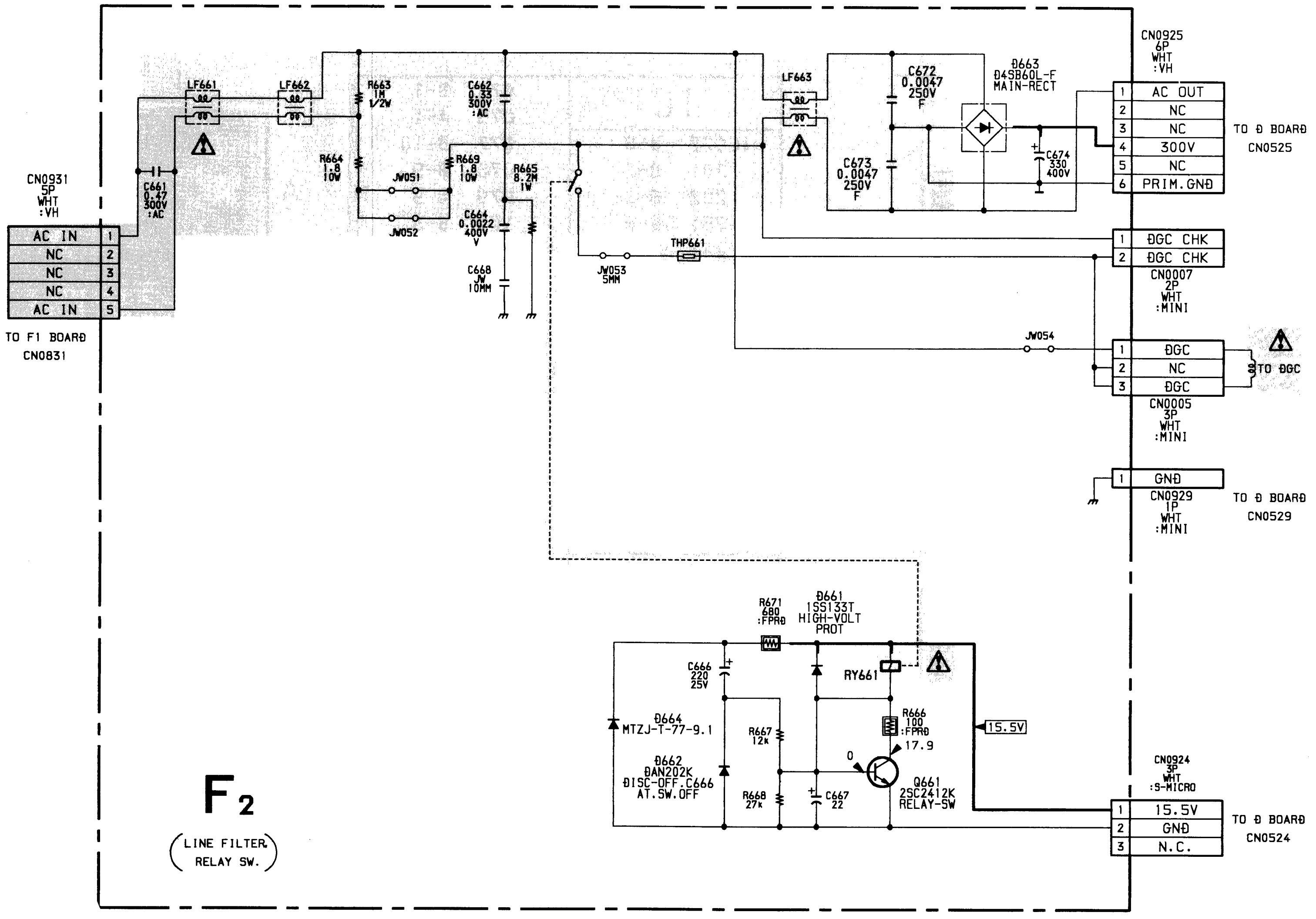

1 2 3 4 5 6 7 8
A B C D E F G H I J
H1 (CONTROL SW, AUDIO OUT, Y-CHROMA OUT, HEADPHONES IN)
MODE
+
−
S081
S082
S083
R081 10k :CHIP
R082 4.7k :CHIP
R083 2.2k :CHIP
R084 1.5k
R085 1.5k
R
L
VIDEO
J-81 S-3P
J-82
HEADPHONE
L081 10μH :EL0606
L082 10μH :EL0606
C083 0.022 B:CHIP
C087 0.022 B:CHIP
L AUDIO
R AUDIO
CN1008 13P YEL :S-MICRO
TO A BOARD CN5108
13 LC
12 FR R OUT
11 GND
10 FR L OUT
9 GND
8 FR V OUT
7 GND
6 FR C OUT
5 GND
4 FR Y OUT
3 HP L IN
2 GND
1 HP R IN
TO A BOARD CN0108
B-SS4260<AEP>-H1.
H2 (SIRCS RECEIVE, INDICATOR.)
D092 LD-201VR
RESET
A
B
D093 LD-201VR AUDIO
D094 LD-201VR AUDIO
IC091 SBX1610-11 INFRARED-RECEIVER
5V
7 6 5 4 3 2 1
GND
STBY 5V
LED REC
LED RESP
LED B
LED A
SIRCS
CN-1132 7P RED :S-MICRO
TO M BOARD CN1432
B-SS4260<AEP>-H2.
CN0931 5P WHT :VH
1 AC IN
2 NC
3 NC
4 NC
5 AC IN
TO F1 BOARD CN0831
LF661
LF662
C661 0.47 300V :AC
R663 1M 1/2W
R664 1.8 10W
JW051
JW052
R669 1.8 10W
R665 8.2M 1W
C662 0.33 300V :AC
C664 0.0022 400V
C668 JW 10MM
F2 (LINE FILTER, RELAY SW.)
F1 (AC IN, POWER SW)
S651
F651 T5A250V (HBC)
CN0831 5P GRY :VT
1 AC OUT
2 NC
3 NC
4 NC
5 AC OUT
TO F2 BOARD CN0931
CN0003 4P GRY :VT
AC IN
NC
NC
AC IN
B-SS4260<AEP>-F1.
AC IN 220V-240V 50Hz


CN1008
13P
YEL
:S-MICRO
TO A BOARD
CN5108
R084
1.5k
R085
1.5k
LC
FR R OUT
GND
FR L OUT
GND
FR V OUT
GND
FR C OUT
GND
FR Y OUT
HP L IN
GND
HP R IN
L AUDIO
R AUDIO
EL0606
L082
10µH
L0606
C083
0.022
B:CHIP
C087
0.022
B:CHIP
TO A BOARD
CN0108

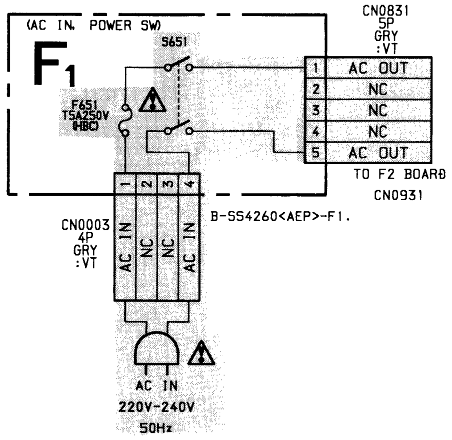
B-SS4260<AEP>-H1.


CATOR.)
D092
LD-201VR
RESET
B
D094
LD-201VR
AUDIO
IC091
SBX1610-11
INFRARED-RECEIVER
5V

B-SS4260<AEP>-H2.


CN0931
5P
WHT
:VH
AC IN
NC
NC
NC
AC IN
TO F1 BOARD
CN0831
LF661
LF662
R663
1M
1/2W
C662
0.33
300V
:AC
C661
0.47
300V
:AC
R664
1.8
10W
JW051
JW052
R669
1.8
10W
R665
8.2M
1W
C664
0.0022
400V
C668
10MM
JW053
5MM
THP661
LF663
C672
0.0047
250V
F
C673
0.0047
250V
F
D663
D4SB60L-F
MAIN-RECT
C674
330
400V
CN0925
6P
WHT
:VH
AC OUT
NC
NC
300V
NC
PRIM.GND
TO D BOARD
CN0525
DGC CHK
DGC CHK
CN0007
2P
WHT
:MINI
JW054
DGC
NC
DGC
CN0005
3P
WHT
:MINI
TO DGC
GND
CN0929
1P
WHT
:MINI
TO D BOARD
CN0529
R671
680
:FPRD
D661
1SS133T
HIGH-VOLT
PROT
RY661
C666
220
25V
D664
MTZJ-T-77-9.1
R667
12k
R666
100
:FPRD
17.9
15.5V
D662
DAN202K
DISC-OFF.C666
AT.SW.OFF
R668
27k
C667
22
Q661
2SC2412K
RELAY-SW
CN0924
3P
WHT
:S-MICRO
15.5V
GND
N.C.
TO D BOARD
CN0524
F2
LINE FILTER
RELAY SW.

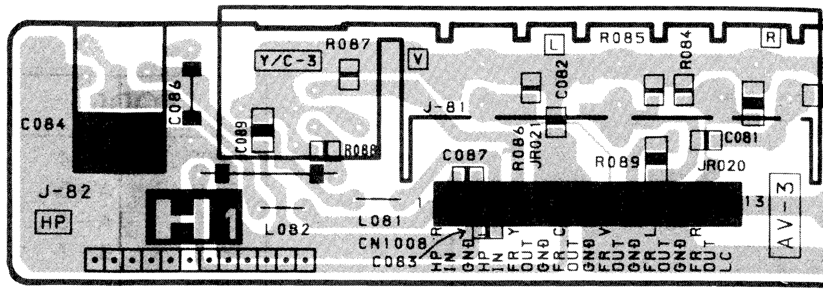
B-SS4260<AEP>-F2.


(AC IN, POWER SW)
F1
S651
F651
T5A250V
(HBC)
CN0831
5P
GRY
:VT
AC OUT
NC
NC
NC
AC OUT
TO F2 BOARD
CN0931
CN0003
4P
GRY
:VT
AC IN
NC
NC
AC IN
AC IN
220V-240V
50Hz

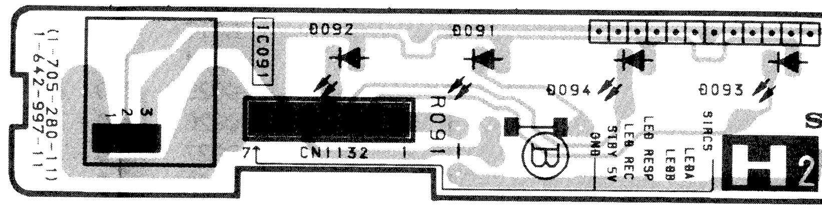
B-SS4260<AEP>-F1.

H1 [CONTROL SW, AUDIO OUT, Y-CHROMA OUT, HEADPHONE IN] **H2** [SIRCS RECEIVE INDICATOR

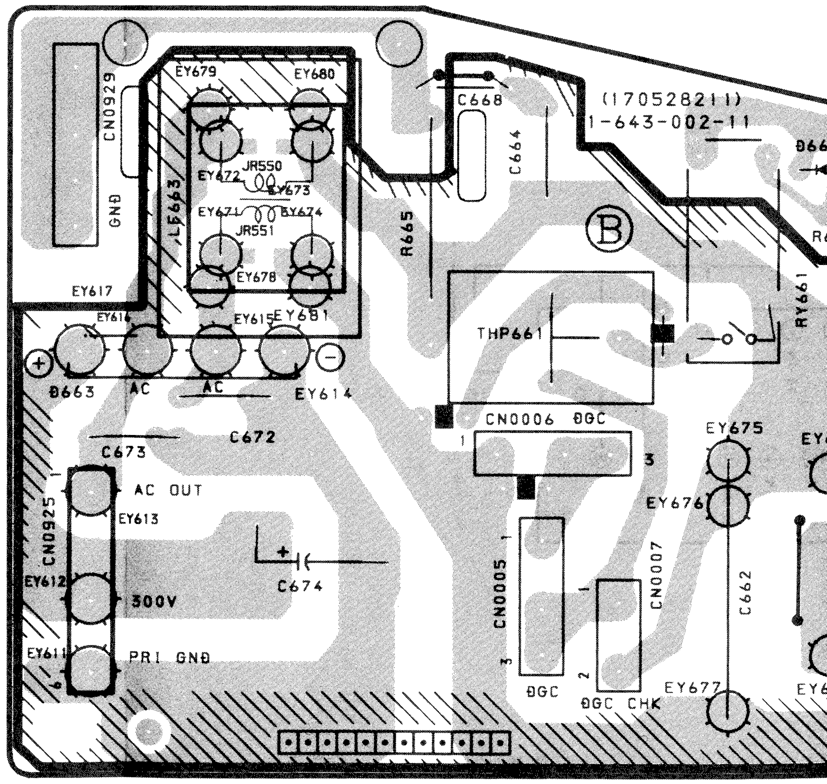
– H1 BOARD –

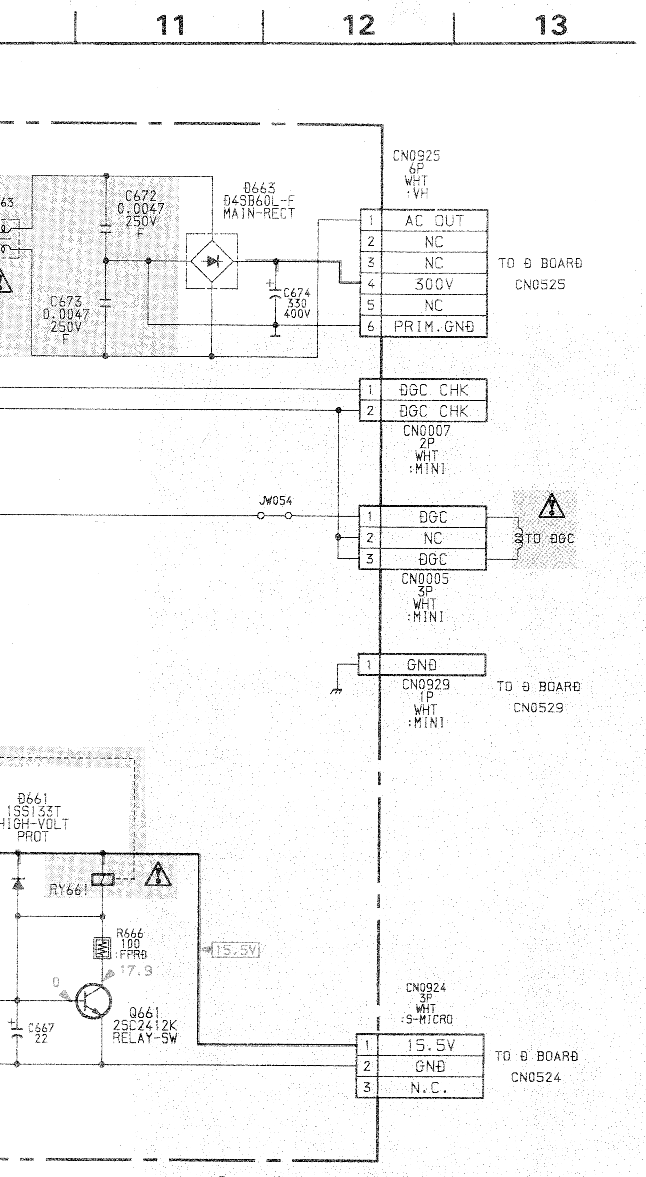

Y/C-3
R087
V
L
R085
R084
R
C084
C086
J-81
C082
C089
R088
C087
R086
JR021
R089
C081
JR020
J-82
HP
H1
L082
L081
CN1008
C083
AV-3

– H2 BOARD –


1-705-280-11
1-642-997-11
IC091
D092
D091
D094
D093
CN1132
R091
B
H2

– F2 BOARD –

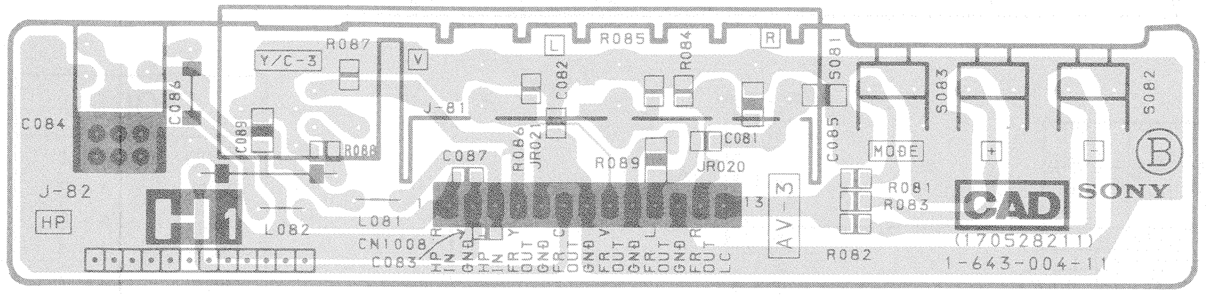

CN0929
GND
EY679
EY680
LF663
JR550
EY672
EY673
EY671
EY674
JR551
EY678
C668
C664
R665
(170528211)
1-643-002-11
B
EY617
EY616
EY615
EY681
THP661
D663
AC
AC
EY614
CN0006 DGC
C673
C672
AC OUT
EY613
CN0925
EY612
300V
C674
CN0005
CN0007
C662
EY611
PRI GND
DGC
DGC CHK
EY675
EY676
EY677


11
12
13
CN0925 6P WHT :VH
C672 0.0047 250V F
D663 D4SB60L-F MAIN-RECT
C673 0.0047 250V F
C674 330 400V
AC OUT
NC
NC
300V
NC
PRIM.GND
TO D BOARD CN0525
DGC CHK
DGC CHK
CN0007 2P WHT :MINI
JW054
DGC
NC
DGC
TO DGC
CN0005 3P WHT :MINI
GND
CN0929 1P WHT :MINI
TO D BOARD CN0529
D661 1SS133T HIGH-VOLT PROT
RY661
R666 100 :FPRD
17.9
15.5V
0
C667 22
Q661 2SC2412K RELAY-SW
CN0924 3P WHT :S-MICRO
15.5V
GND
N.C.
TO D BOARD CN0524

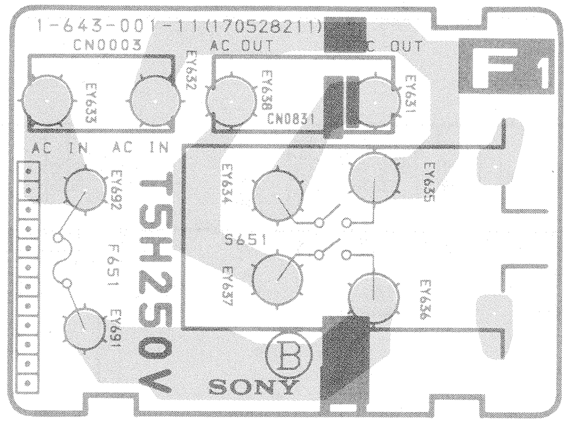
B-SS4260<AEP>-F2.

H1 CONTROL SW, AUDIO OUT, Y-CHROMA OUT, HEADPHONE IN **H2** SIRCS RECEIVER, INDICATOR **F1** AC IN, POWER SW **F2** LINE FILTER, RELAY SW

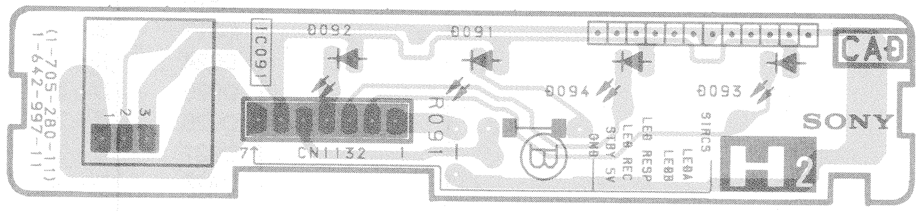
– H1 BOARD –


Y/C-3
V
L
R
R087
R085
R084
S081
S083
S082
C084
C086
C089
R088
J-81
C082
C081
C085
C087
R089
JR020
JR021
R086
J-82
HP
H1
L081
L082
CN1008
C083
MODE
R081
R083
R082
AV-3
CAD
SONY
(170528211)
1-643-004-11

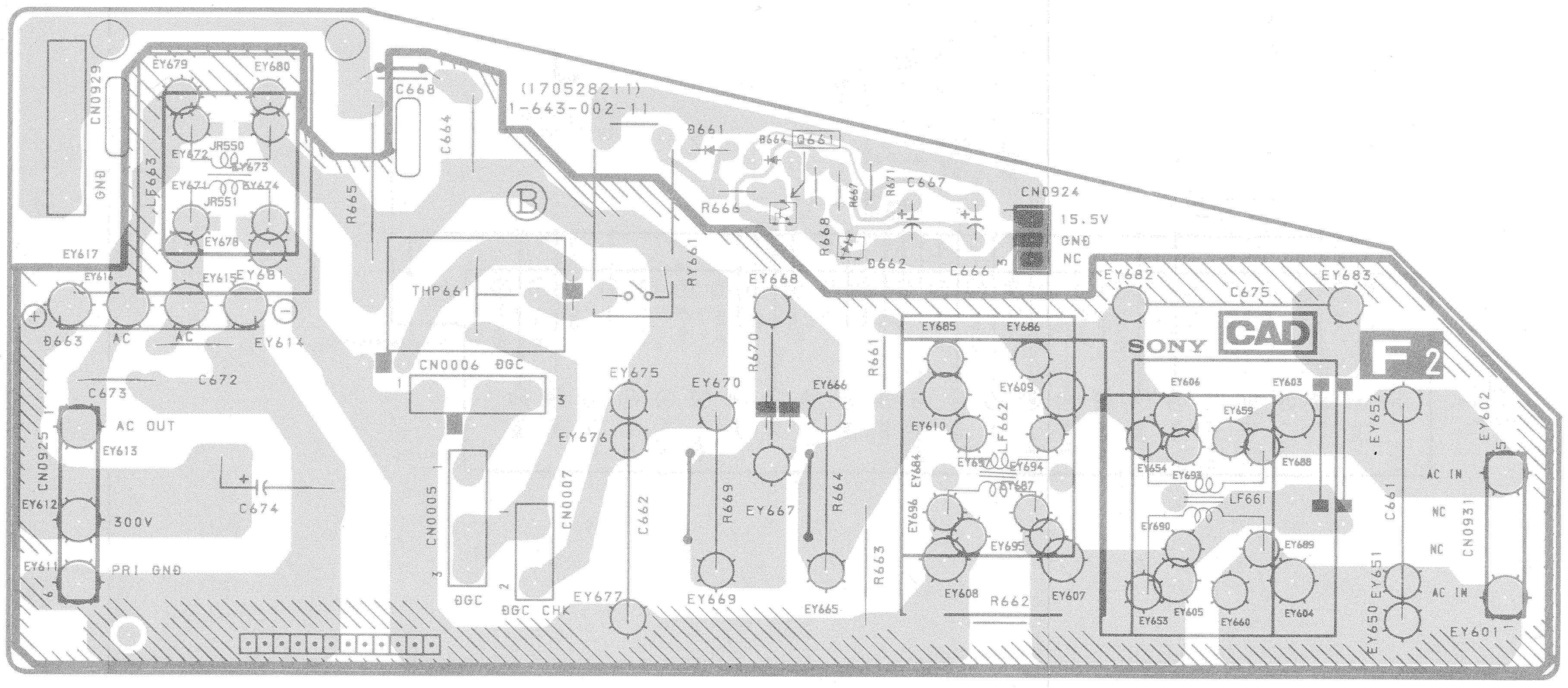
– F1 BOARD –

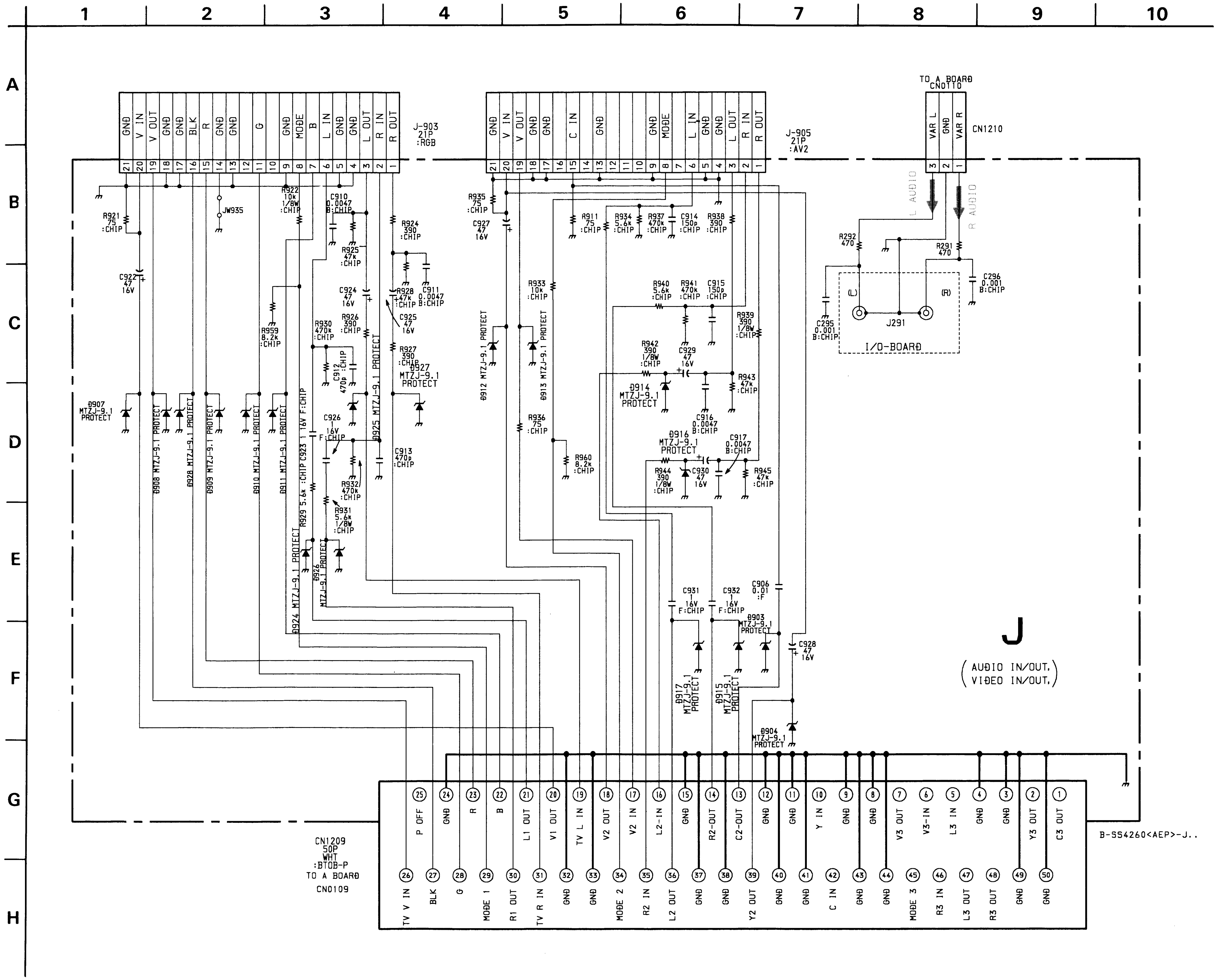

1-643-001-11(170528211)
CN0003
AC OUT
AC OUT
F1
EY633
EY632
EY638
EY631
CN0831
AC IN
AC IN
EY692
EY634
EY635
T5H250V
S651
F651
EY637
EY636
EY691
SONY

– H2 BOARD –


(1-705-280-11)
1-642-997-11
IC091
D092
D091
D094
D093
R091
CN1132
CAD
SONY
H2
SIRCS
LEDA
LEDB
LED RESP
LED REC
STBY 5V
GND

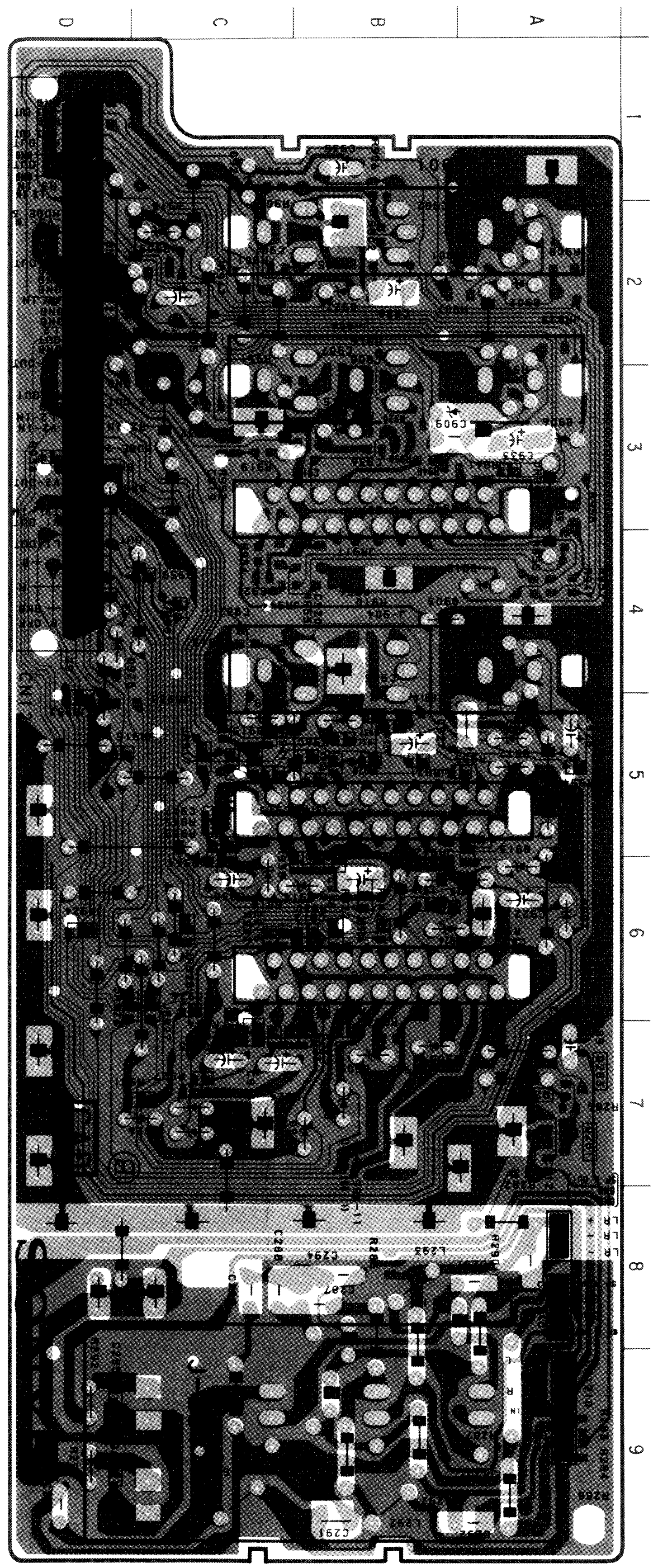
– F2 BOARD –


(170528211)
1-643-002-11
CN0929
GND
EY679
EY680
JR550
EY672
EY673
EY671
EY674
JR551
LF663
EY678
EY617
EY616
EY615
EY681
C668
C664
R665
D661
D664
Q661
R666
R667
R671
C667
R668
D662
C666
CN0924
15.5V
GND
NC
THP661
RY661
D663
AC
AC
EY614
EY668
CN0006 DGC
C673
C672
AC OUT
EY613
CN0925
EY612
300V
C674
EY611
PRI GND
EY675
EY676
CN0005
CN0007
DGC
DGC CHK
EY677
EY670
R670
EY666
EY667
EY669
C662
R669
R664
EY665
R661
R663
EY685
EY686
EY609
EY610
LF662
EY684
EY693
EY694
EY687
EY696
EY695
EY608
R662
EY607
EY682
C675
EY683
SONY
CAD
F2
EY606
EY603
EY659
EY654
EY697
EY688
LF661
EY690
EY689
EY653
EY605
EY660
EY604
EY652
C661
EY651
EY650
EY602
AC IN
NC
NC
AC IN
CN0931
EY601


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
G
H
J-903
21P
:RGB
J-905
21P
:AV2
TO A BOARD
CN0110
CN1210
VAR L
GND
VAR R
L AUDIO
R AUDIO
J291
I/O-BOARD
J
(AUDIO IN/OUT,
VIDEO IN/OUT)
CN1209
50P
WHT
:BTOB-P
TO A BOARD
CN0109
P OFF
GND
R
B
L1 OUT
V1 OUT
TV L IN
V2 OUT
V2 IN
L2-IN
R2-OUT
C2-OUT
Y IN
V3 OUT
V3-IN
L3 IN
Y3 OUT
C3 OUT
TV V IN
BLK
G
MODE 1
R1 OUT
TV R IN
MODE 2
R2 IN
L2 OUT
Y2 OUT
C IN
MODE 3
R3 IN
L3 OUT
R3 OUT
B-SS4260<AEP>-J..

DIODE	
D903	B-4
D904	A-5
D907	A-6
D908	B-7
D909	B-7
D910	B-7
D911	B-7
D912	A-5
D913	A-6
D914	B-6
D915	C-5
D916	C-6
D917	B-5
D924	B-6
D925	C-7
D926	C-7
D927	C-7
D928	D-4

– J BOARD –

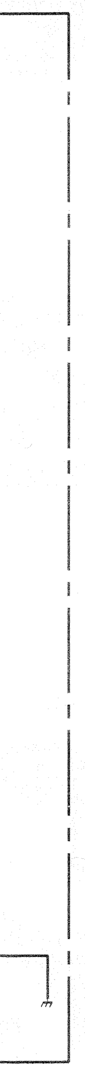

D
C
B
A
1
2
3
4
5
6
7
8
9

Note :

- ▒ : Pattern from the side which enables seeing.
- ▓ : Pattern of the rear side.

10

DIODE	
D903	B-4
D904	A-5
D907	A-6
D908	B-7
D909	B-7
D910	B-7
D911	B-7
D912	A-5
D913	A-6
D914	B-6
D915	C-5
D916	C-6
D917	B-5
D924	B-6
D925	C-7
D926	C-7
D927	C-7
D928	D-4



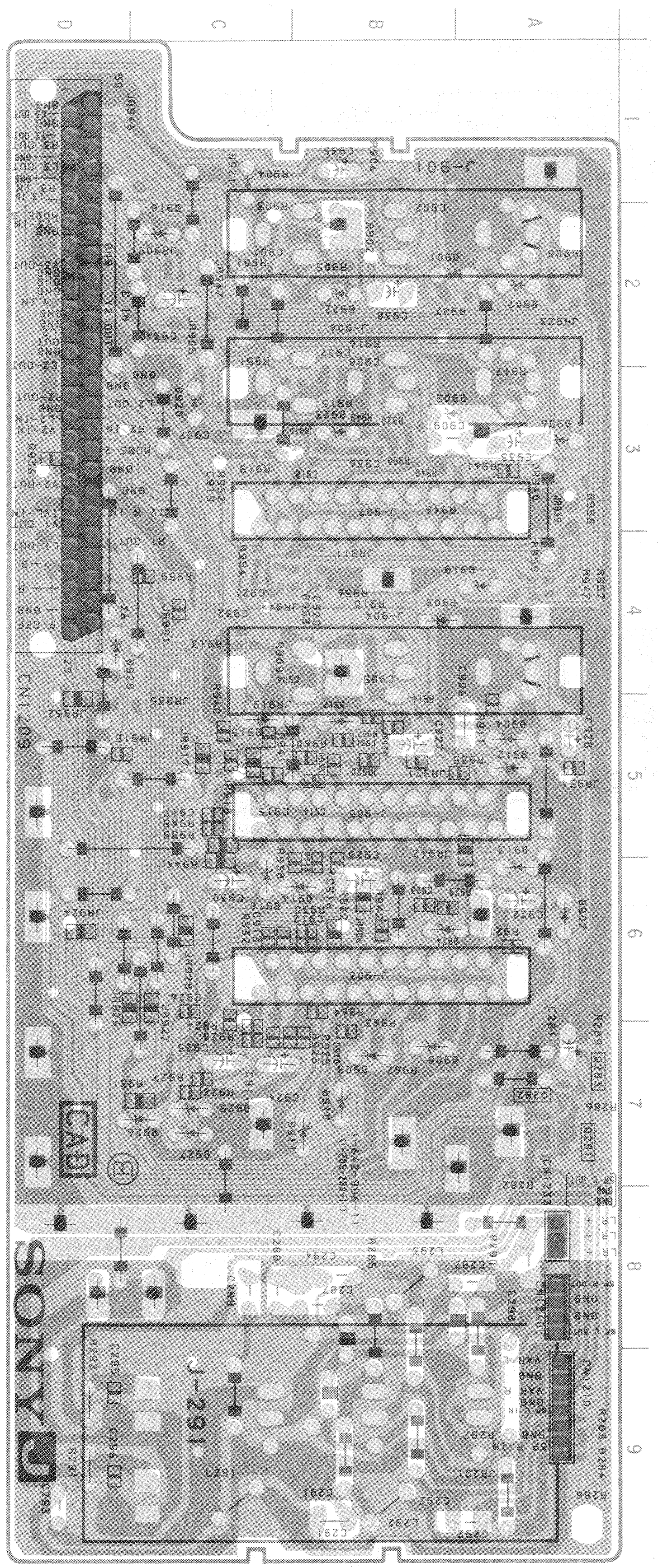
B-SS4260<AEP>-J..

te :

▨ : Pattern from the side which enables seeing.

▨ : Pattern of the rear side.

– J BOARD –



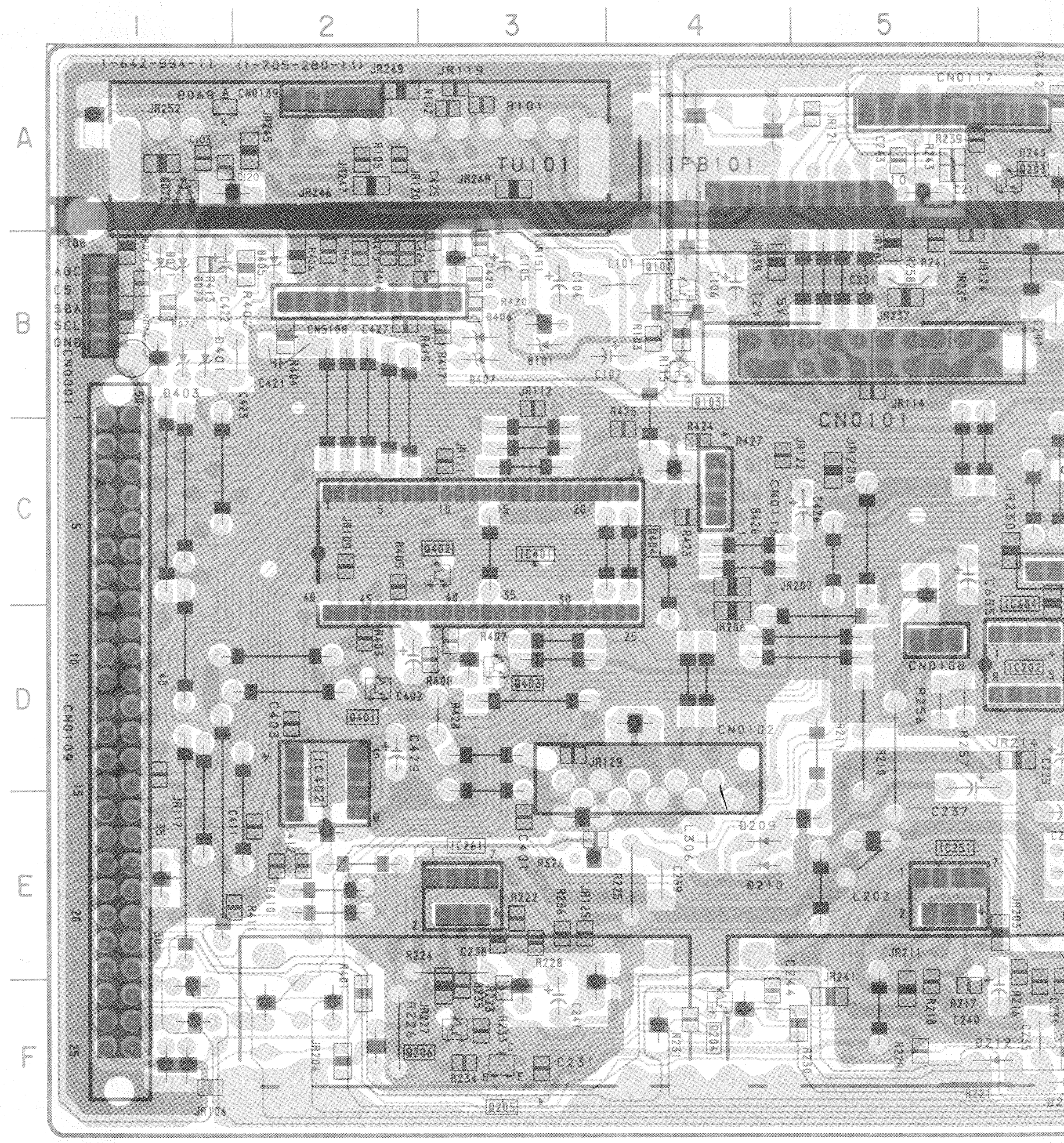
D
C
B
A
1
2
3
4
5
6
7
8
9
J-901
J-902
J-903
J-904
J-905
J-906
J-907
CN1209
CN1210
CAD
SONY
J-291
J
1-642-996-11
(1-705-280-11)

IC	
IC072	B-8
201	D-7
202	D-6
251	E-5
261	E-3
301	A-10
302	A-13
304	C-13
401	C-3
402	D-2
681	E-12
683	F-11
684	C-6

TRANSISTOR	
Q071	F-12
101	B-4
102	A-9
103	B-4
201	E-6
202	E-6
203	A-6
204	F-4
205	F-3
206	F-3
207	B-8
209	F-10
303	A-9
304	E-13
306	E-12
308	D-12
309	D-11
311	D-10
312	D-10
401	D-2
402	C-3
403	D-3
581	C-11
582	C-11
610	F-12
611	F-12
683	F-11

DIODE	
D068	B-9
069	A-1
071	B-1
073	B-1
075	A-1
077	B-10
078	B-9
079	B-9
101	B-3
205	A-9
206	F-10
207	F-10
208	F-10
209	E-4
210	E-4
211	F-6
212	F-6
213	F-7
301	B-11
302	A-12
303	C-11
304	B-13
305	E-11
306	E-13
307	E-13
308	E-13
310	B-10
311	D-12
381	C-11
401	B-1
403	B-1
405	B-2
406	B-3
407	B-3
571	C-12
681	F-11
682	F-11

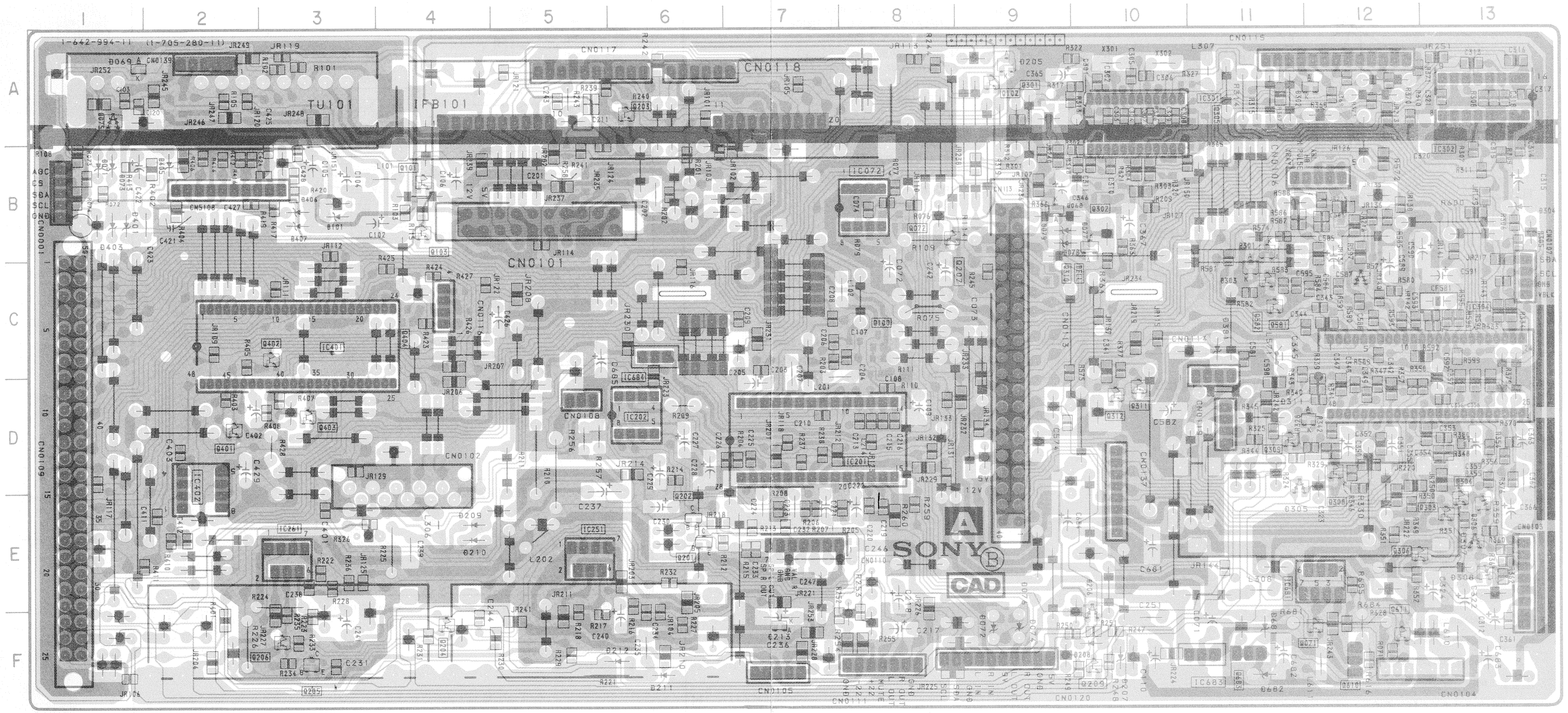
– A BOARD –



1
2
3
4
5
A
B
C
D
E
F
1-642-994-11
(1-705-280-11)
TU101
IFB101
CN0117
CN0101
CN0102
CN0109
CN0108
CN5108
IC401
IC402
IC261
IC251
IC202
IC684
AGC
CS
SDA
SCL
GND

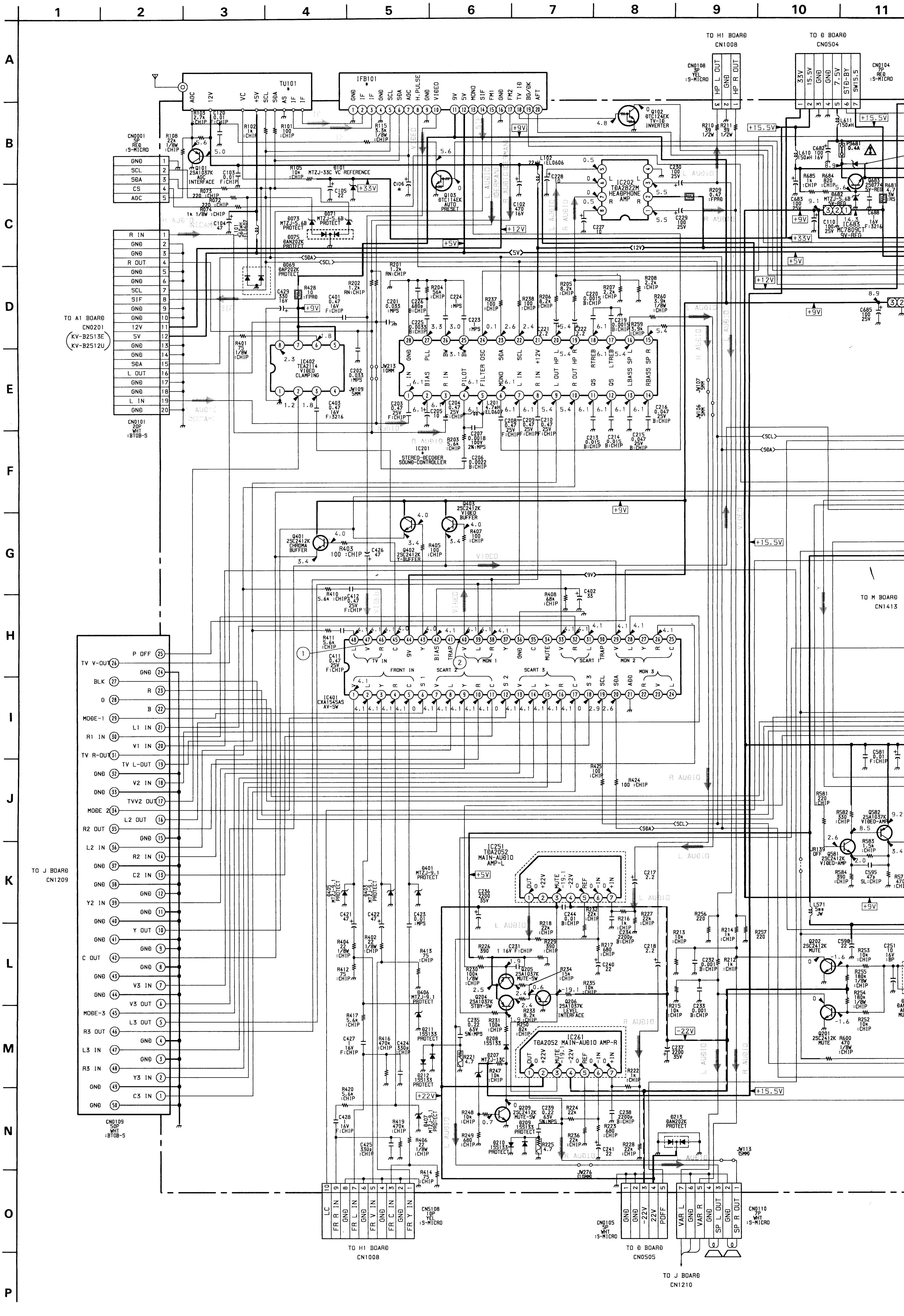
073	B-1
075	A-1
077	B-10
078	B-9
079	B-9
01	B-3
205	A-9
206	F-10
207	F-10
208	F-10
209	E-4
210	E-4
211	F-6
212	F-6
213	F-7
301	B-11
302	A-12
303	C-11
304	B-13
305	E-11
306	E-13
307	E-13
308	E-13
310	B-10
311	D-12
381	C-11
401	B-1
403	B-1
405	B-2
406	B-3
407	B-3
571	C-12
681	F-11
682	F-11

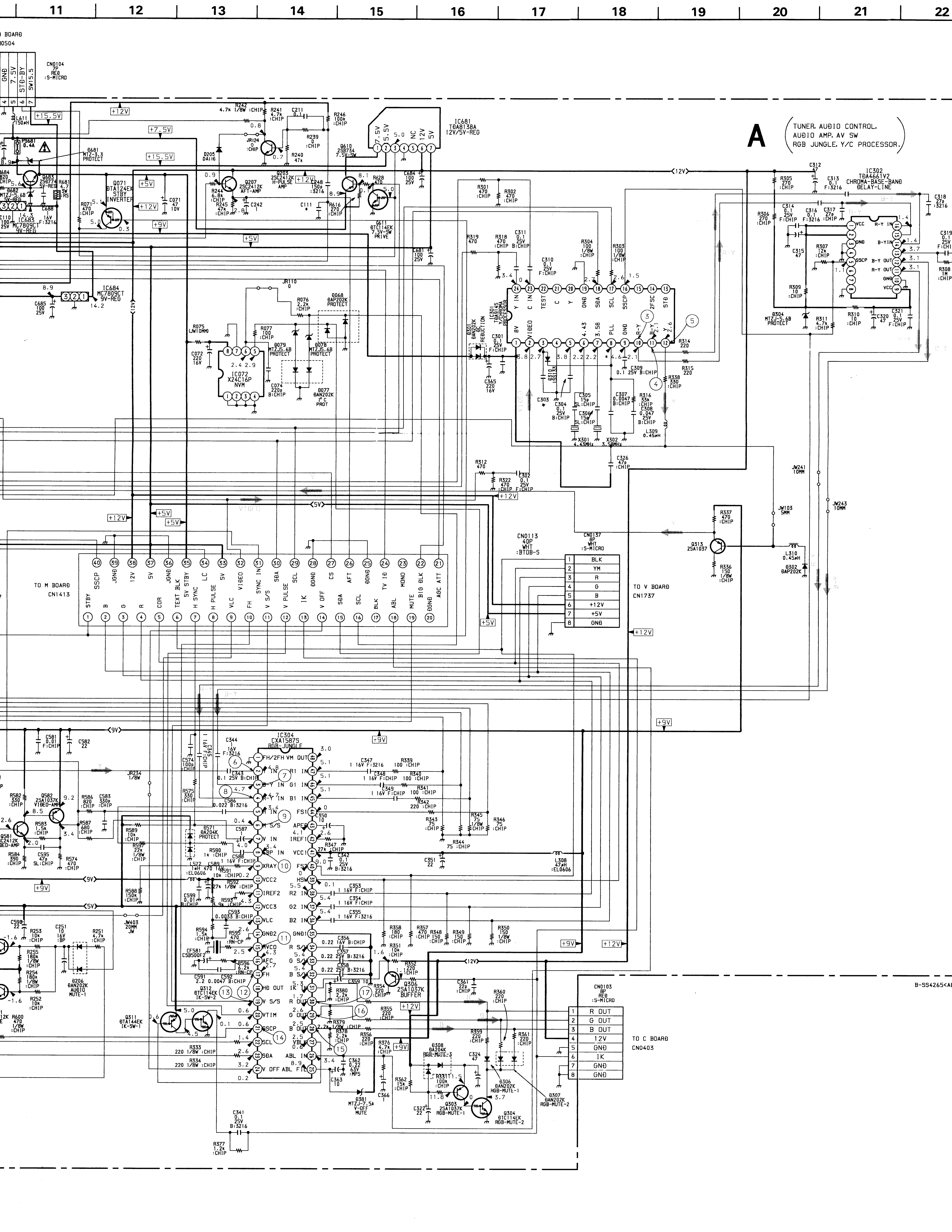
– A BOARD –

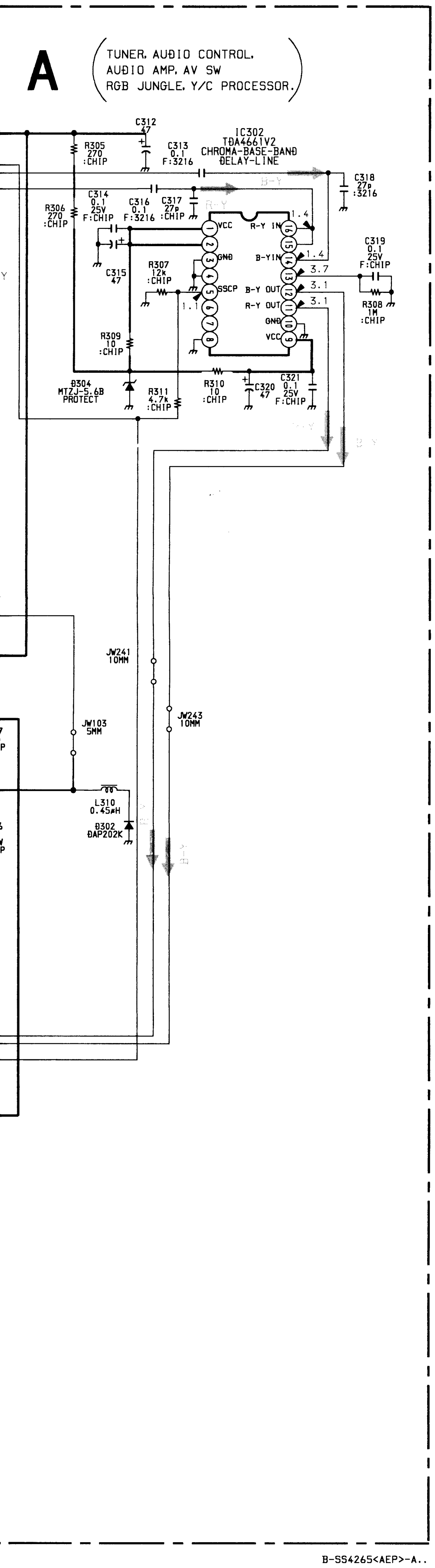

1 2 3 4 5 6 7 8 9 10 11 12 13
A B C D E F
1-642-994-11 (1-705-280-11)
TU101
IFB101
CN0117
CN0118
CN0101
CN0109
CN0102
CN0105
CN0111
CN0120
CN0104
CN0115
IC401
IC402
IC202
IC201
IC251
IC261
IC072
IC301
IC302
IC681
IC683
SONY
CAD
A
B

Note :

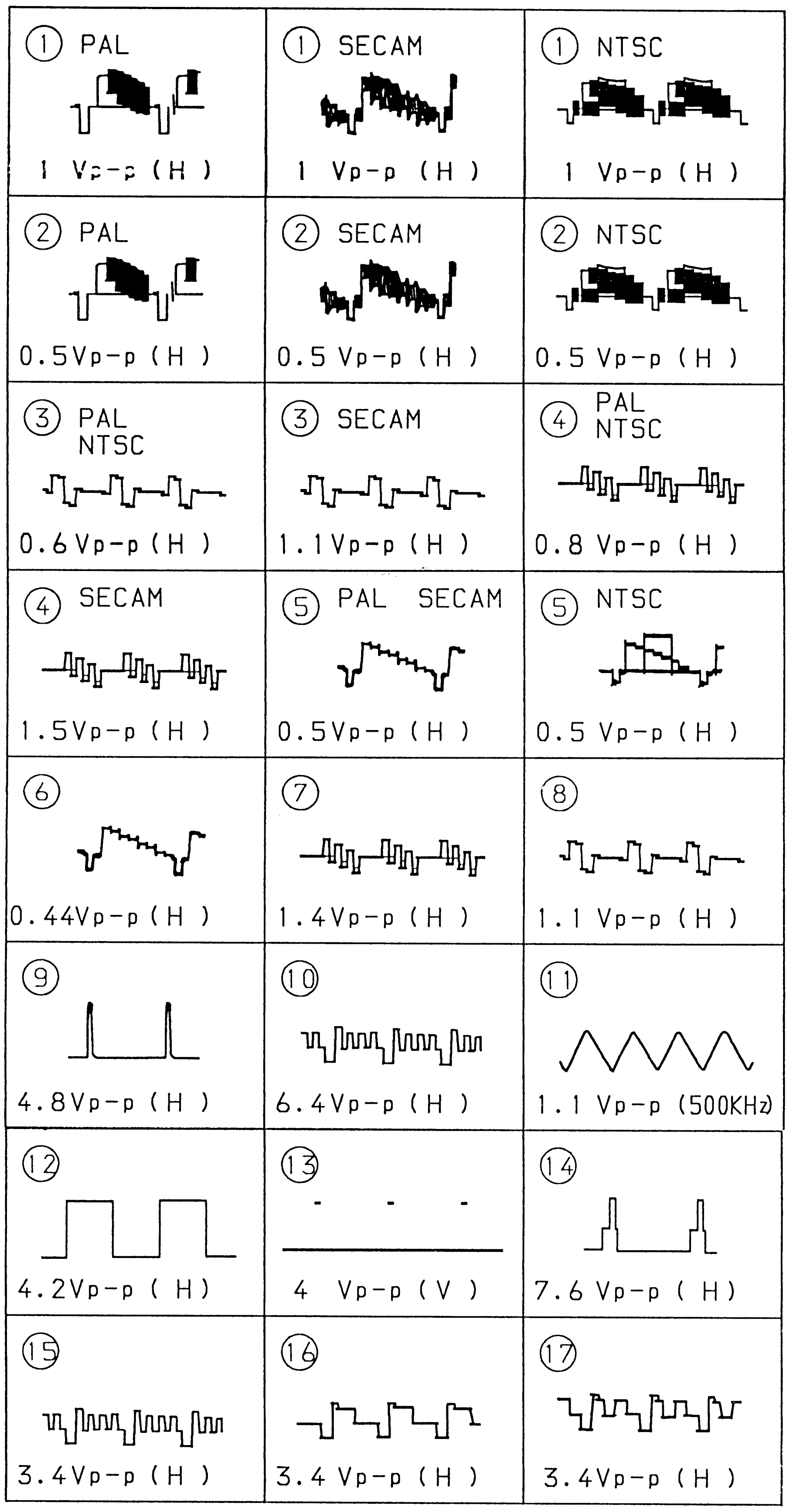
- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.


1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
TU101 *
AGC
12V
VC
+5V
SCL
SDA
AS
IF
IF
IFB101 *
IF
IF
GND
SCL
SDA
AGC
H.PULSE
GND
VIDEO
9V
5V
MONO
SIF
FM1
GND
FM2
TV IØ
BG/DK
AFT
CN0001 5P RED :S-MICRO
GND
SCL
SDA
CS
AGC
Q101 2SA1037K AGC INTERFACE
D101 MTZJ-33C VC REFERENCE
D073 MTZJ-5.6B PROTECT
D071 MTZJ-5.6B PROTECT
D075 DAN202K PROTECT
D069 DAP202K PROTECT
Q103 DTC114EK AUTO PRESET
Q102 DTC124EK TV-IØ INVERTER
IC202 TDA2822M HEADPHONE AMP
TO H1 BOARD CN1008
CN0108 3P YEL :S-MICRO
HP L OUT
GND
HP R OUT
TO D BOARD CN0504
33V
15.5V
GND
GND
7.5V
STD-BY
SW15.5
CN0104 7P RED :S-MICRO
Q683 2SD774 5V-REG
IC683 MC7809CT 9V-REG
TO A1 BOARD CN0201 (KV-B2513E KV-B2512U)
R IN
GND
GND
R OUT
GND
GND
SCL
SIF
GND
GND
12V
5V
GND
GND
SDA
L OUT
GND
GND
L IN
GND
CN0101 20P WHT :BTOB-S
IC402 TDA2114 VIDEO CLAMPING
IC201 STEREO-DECODER SOUND-CONTROLLER
Q401 2SC2412K CHROMA BUFFER
Q402 2SC2412K Y-BUFFER
Q403 2SC2412K VIDEO BUFFER
IC401 CXA1545AS AV-SW
TV IN
FRONT IN
SCART 2
MON 1
SCART 3
MON 2
MON 3
TO M BOARD CN1413
TO J BOARD CN1209
P OFF
TV V-OUT
BLK
R
G
B
MODE-1
L1 IN
R1 IN
V1 IN
TV R-OUT
TV L-OUT
V2 IN
TVV2 OUT
MODE 2
L2 OUT
R2 OUT
L2 IN
R2 IN
C2 IN
Y2 IN
Y OUT
C OUT
V3 IN
V3 OUT
MODE-3
L3 OUT
R3 OUT
L3 IN
R3 IN
Y3 IN
C3 IN
GND
CN0109 50P WHT :BTOB-S
IC251 TDA2052 MAIN-AUDIO AMP-L
IC261 TDA2052 MAIN-AUDIO AMP-R
Q205 2SA1037K MUTE-SW
Q204 2SA1037K STBY-SW
Q206 2SA1037K LEVEL INTERFACE
Q209 2SC2412K MUTE-SW
D213 DAN202K PROTECT
Q581 2SC2412K VIDEO-AMP
Q582 2SA1037K VIDEO-AMP
Q202 2SC2412K MUTE
Q201 2SC2412K MUTE
LC
FR R IN
GND
FR L IN
GND
FR V IN
GND
FR C IN
GND
FR Y IN
CN5108 10P YEL :S-MICRO
TO H1 BOARD CN1008
GND
GND
-22V
GND
POFF
CN0105 5P WHT :S-MICRO
TO D BOARD CN0505
VAR L
GND
VAR R
GND
SP L OUT
GND
SP R OUT
CN0110 7P WHT :S-MICRO
TO J BOARD CN1210
+15.5V
+9V
+33V
+12V
+5V
+22V
-22V
L AUDIO
R AUDIO
VIDEO


11
12
13
14
15
16
17
18
19
20
21
22
A
TUNER, AUDIO CONTROL, AUDIO AMP, AV SW RGB JUNGLE, Y/C PROCESSOR.
CN0104 7P RED :S-MICRO
IC681 TDA8138A 12V/5V-REG
IC684 MC7809CT 9V-REG
IC683 MC7809CT 9V-REG
Q071 DTA124EK STBY INVERTER
Q207 2SC2412K AFT-AMP
Q203 2SC2412K H-PULSE AMP
Q610 2SB734 7.5V-SW
Q611 DTC114EK 7.5V-SW DRIVE
IC072 X24C16P NVM
IC301 TDA9145 Y/C PROCESSOR
IC302 TDA4661V2 CHROMA-BASE-BAND DELAY-LINE
X301 4.43MHz
X302 3.58MHz
Q313 2SA1037
CN0113 40P WHT :BTOB-S
TO M BOARD CN1413
CN0137 8P WHT :S-MICRO
1 BLK
2 YM
3 R
4 G
5 B
6 +12V
7 +5V
8 GND
TO V BOARD CN1737
IC304 CXA1587S RGB-JUNGLE
Q582 2SA1037K VIDEO-AMP
Q581 2SC2412K VIDEO-AMP
Q312 DTC114EK IK-SW-2
Q311 DTA144EK IK-SW-1
Q306 2SA1037K BUFFER
Q303 2SA1037K RGB-MUTE-1
Q304 DTC114EK RGB-MUTE-2
D381 MTZJ-7.5A V-OFF MUTE
CN0103 8P RED :S-MICRO
1 R OUT
2 G OUT
3 B OUT
4 12V
5 GND
6 IK
7 GND
8 GND
TO C BOARD CN0403
B-SS4265


A
TUNER, AUDIO CONTROL, AUDIO AMP, AV SW RGB JUNGLE, Y/C PROCESSOR.
C312 47
R305 270 :CHIP
C313 0.1 F:3216
IC302 TDA4661V2 CHROMA-BASE-BAND DELAY-LINE
C318 27p :3216
C314 0.1 25V F:CHIP
R306 270 :CHIP
C316 0.1 F:3216
C317 27p :CHIP
VCC
R-Y IN
GND
B-Y IN
SSCP
B-Y OUT
R-Y OUT
C315 47
R307 12k :CHIP
C319 0.1 25V F:CHIP
R308 1M :CHIP
R309 10 :CHIP
D304 MTZJ-5.6B PROTECT
R311 4.7k :CHIP
R310 10 :CHIP
C320 47
C321 0.1 25V F:CHIP
JW241 10MM
JW103 5MM
JW243 10MM
L310 0.45μH
D302 DAP202K
B-SS4265<AEP>-A..

• WAVEFORMS A BOARD

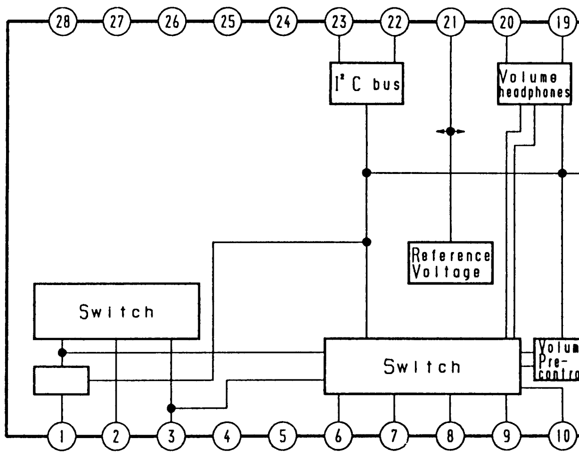


As to the voltage value shown by the mark ※ on the Schematic Diagram, see another list.

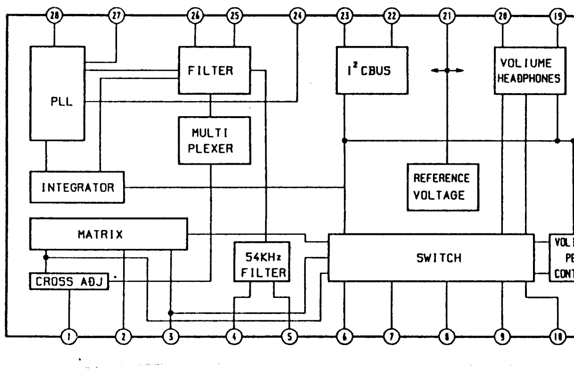
	PAL	SECAM	NTSC 3.58	NTSC 4.43
IC301 ⑧	5.0	4.6	5.0	5.0

	KV-B2511D KV-B2511A KV-B2511K	KV-B2511B	KV-B2513E	KV-B2512U
C106	4.7/50V	10/50V	4.7/50V	4.7/50V
C111	–	0.001/50V	–	–
CN0101	–	–	20P	20P
IC201	TDA6612	TDA6612	TDA6612	TDA6622
IFB101	IFH-389	IFH-389F	IFH-389	IFH-395
TU101	UV-916H	UV-916H	UV-916H	U-944C

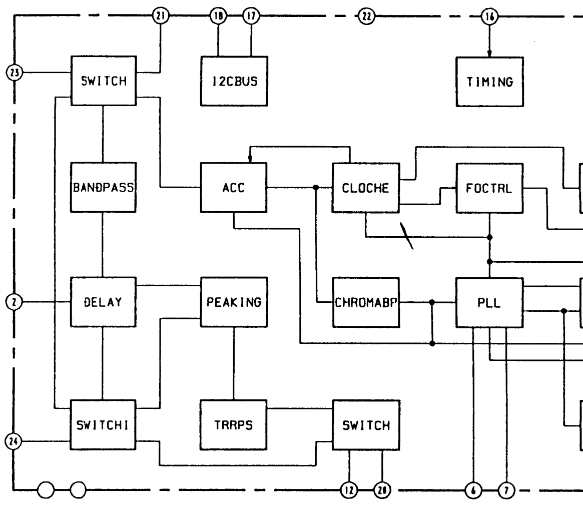
• A BOARD IC201 TDA6622 (KV-B2512U only)


I²C bus
Volume headphones
Reference Voltage
Switch
Switch
28 27 26 25 24 23 22 21 20 19
1 2 3 4 5 6 7 8 9 10

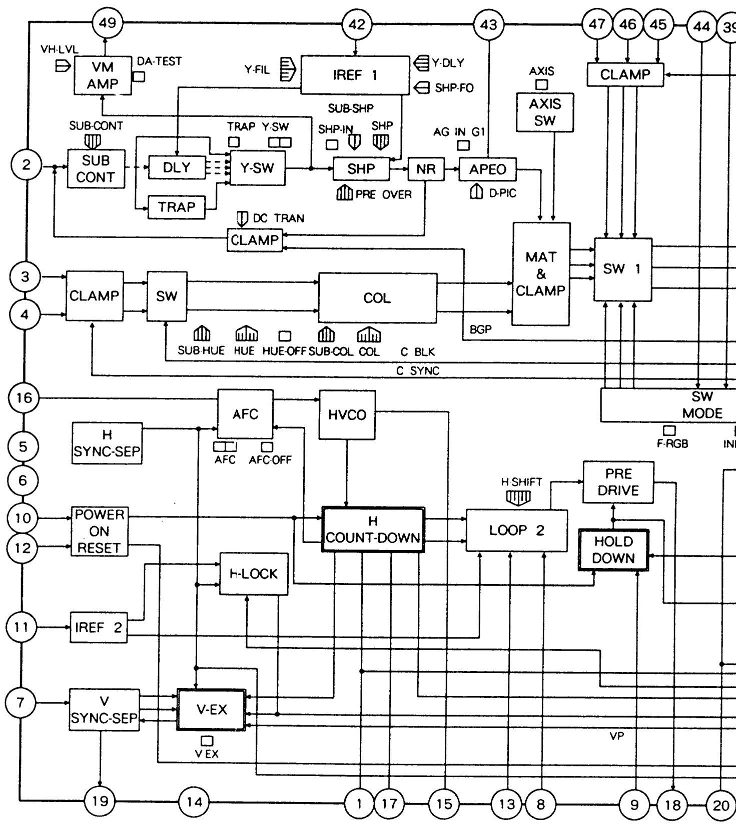
• A BOARD IC201 TDA6612


PLL
FILTER
MULTI PLEXER
I²CBUS
VOLIUME HEADPHONES
INTEGRATOR
REFERENCE VOLTAGE
MATRIX
54KHz FILTER
SWITCH
CROSS ADJ
28 27 26 25 24 23 22 21 20 19
1 2 3 4 5 6 7 8 9 10

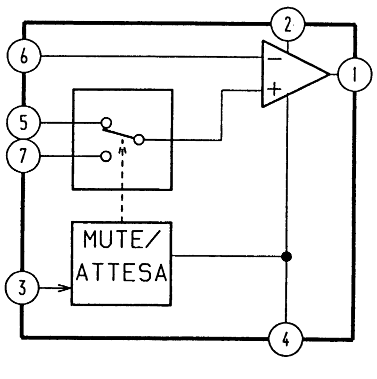
• A BOARD IC301 TDA9145


SWITCH
I2CBUS
TIMING
BANDPASS
ACC
CLOCHE
FOCTRL
DELAY
PEAKING
CHROMABP
PLL
SWITCHI
TRAPS
SWITCH
21 18 17 22 16 23 2 24 12 20 6 7

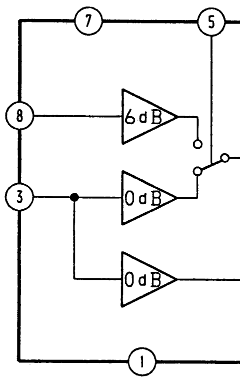
• A BOARD IC304 CXA1587S


VH-LVL
VM AMP
DA-TEST
Y-FIL
IREF 1
Y-DLY
SHP-FO
AXIS
AXIS SW
CLAMP
SUB-SHP
SUB-CONT
SUB CONT
TRAP Y-SW
SHP-IN
SHP
AG IN G1
DLY
Y-SW
SHP
NR
APEO
TRAP
PRE OVER
D-PIC
DC TRAN
CLAMP
MAT & CLAMP
SW 1
CLAMP
SW
COL
SUB-HUE HUE HUE-OFF SUB-COL COL C BLK
BGP
C SYNC
SW MODE
AFC
HVCO
H SYNC-SEP
AFC AFC OFF
F-RGB
H SHIFT
PRE DRIVE
POWER ON RESET
H COUNT-DOWN
LOOP 2
HOLD DOWN
H-LOCK
IREF 2
V SYNC-SEP
V-EX
VEX
VP
49 42 43 47 46 45 44
2 3 4 16 5 6 10 12 11 7
19 14 1 17 15 13 8 9 18 20

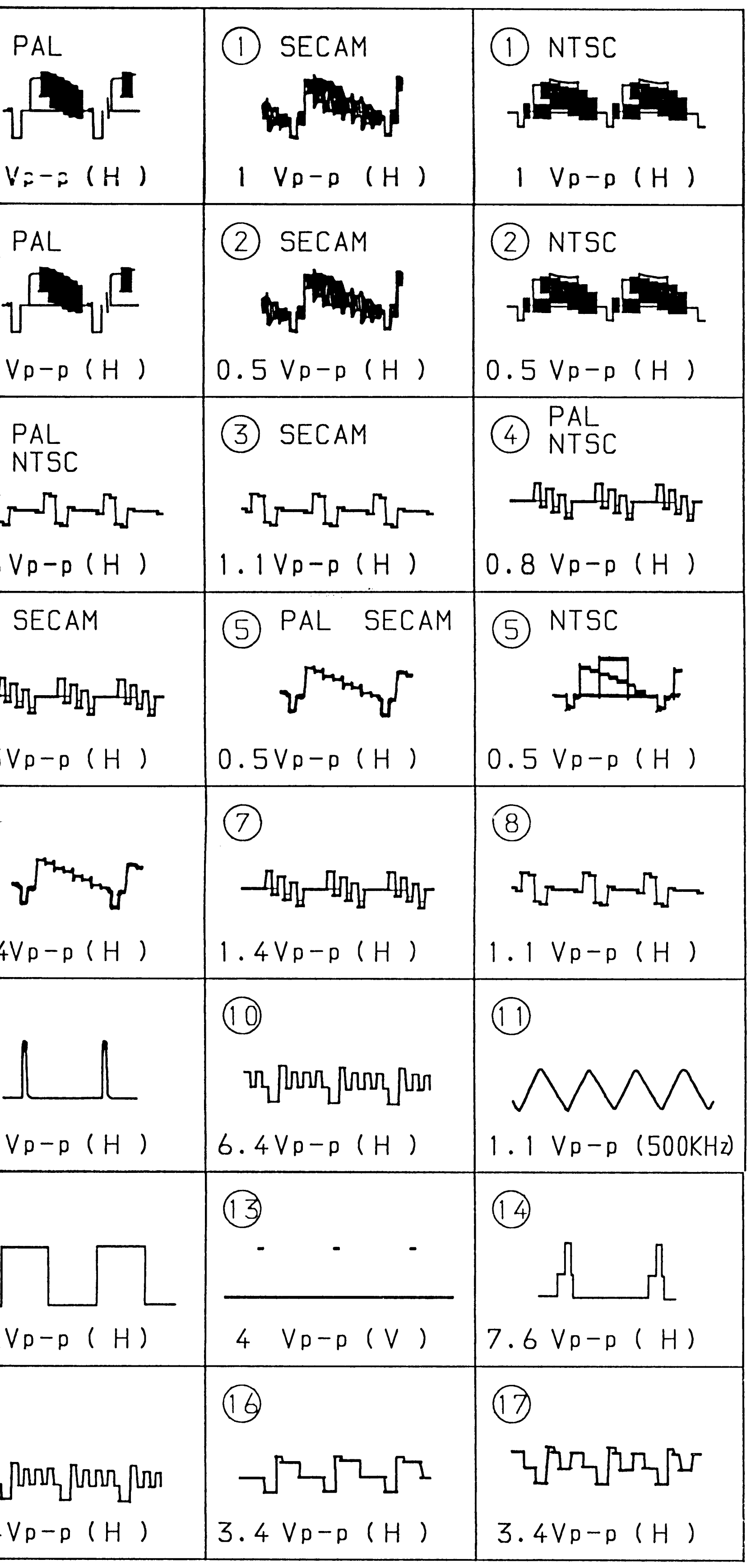
• A BOARD IC251 TDA2052


MUTE/ATTESA
6 5 7 3 2 1 4

• A BOARD IC402 TE


6dB
0dB
0dB
7 5 8 3 1

EFORMS A BOARD

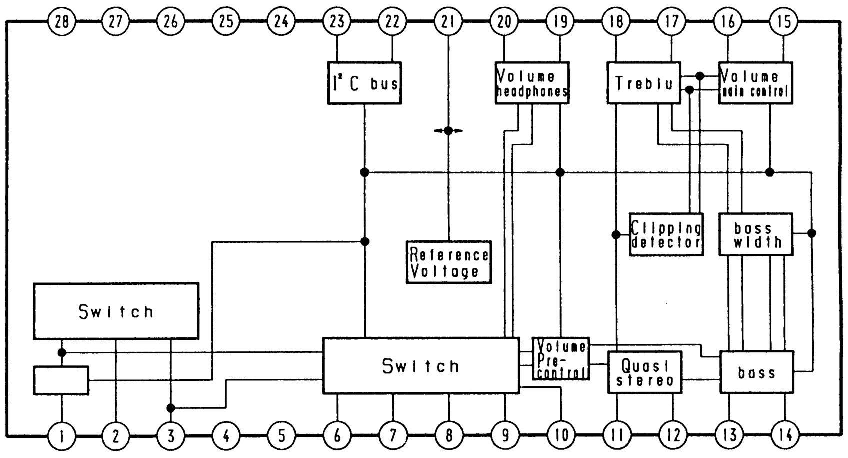


the voltage value shown by the
※ on the Schematic Diagram,
nother list.

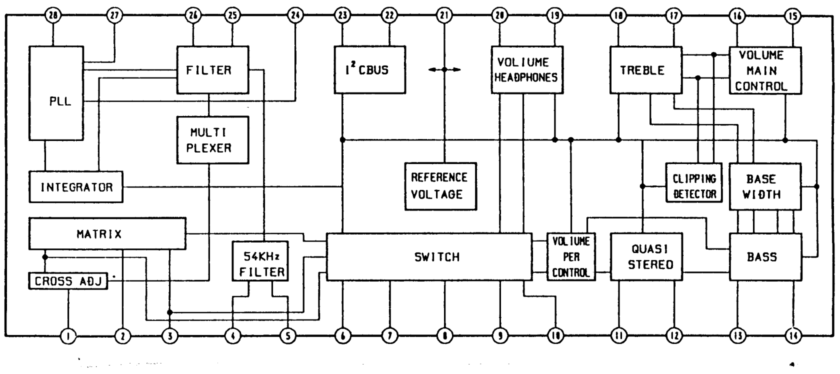
	PAL	SECAM	NTSC 3.58	NTSC 4.43
01 ⑧	5.0	4.6	5.0	5.0

	KV-B2511D KV-B2511A KV-B2511K	KV-B2511B	KV-B2513E	KV-B2512U
6	4.7／50V	10／50V	4.7／50V	4.7／50V
1	–	0.001／50V	–	–
01	–	–	20P	20P
1	TDA6612	TDA6612	TDA6612	TDA6622
01	IFH-389	IFH-389F	IFH-389	IFH-395
01	UV-916H	UV-916H	UV-916H	U-944C

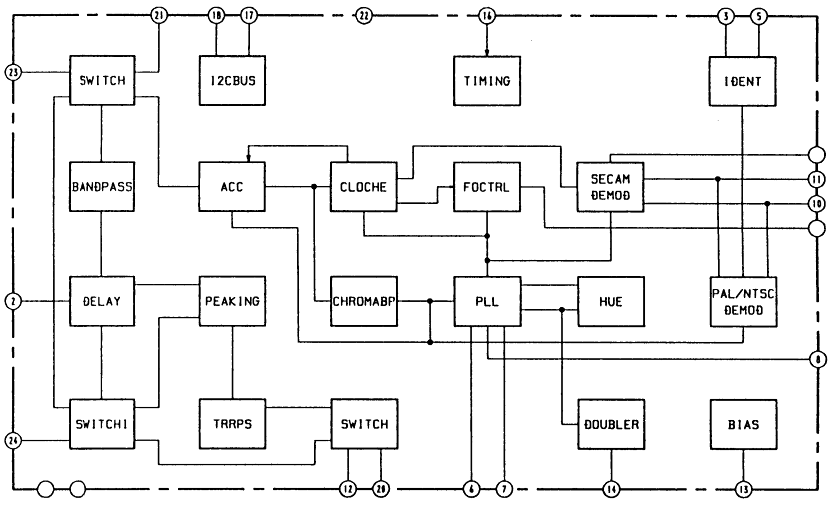
• A BOARD IC201 TDA6622 (KV-B2512U only)


28
27
26
25
24
23
22
21
20
19
18
17
16
15
I²C bus
Volume headphones
Treblu
Volume main control
Clipping detector
bass width
Reference Voltage
Switch
Switch
Volume Pre-control
Quasi stereo
bass
1
2
3
4
5
6
7
8
9
10
11
12
13
14

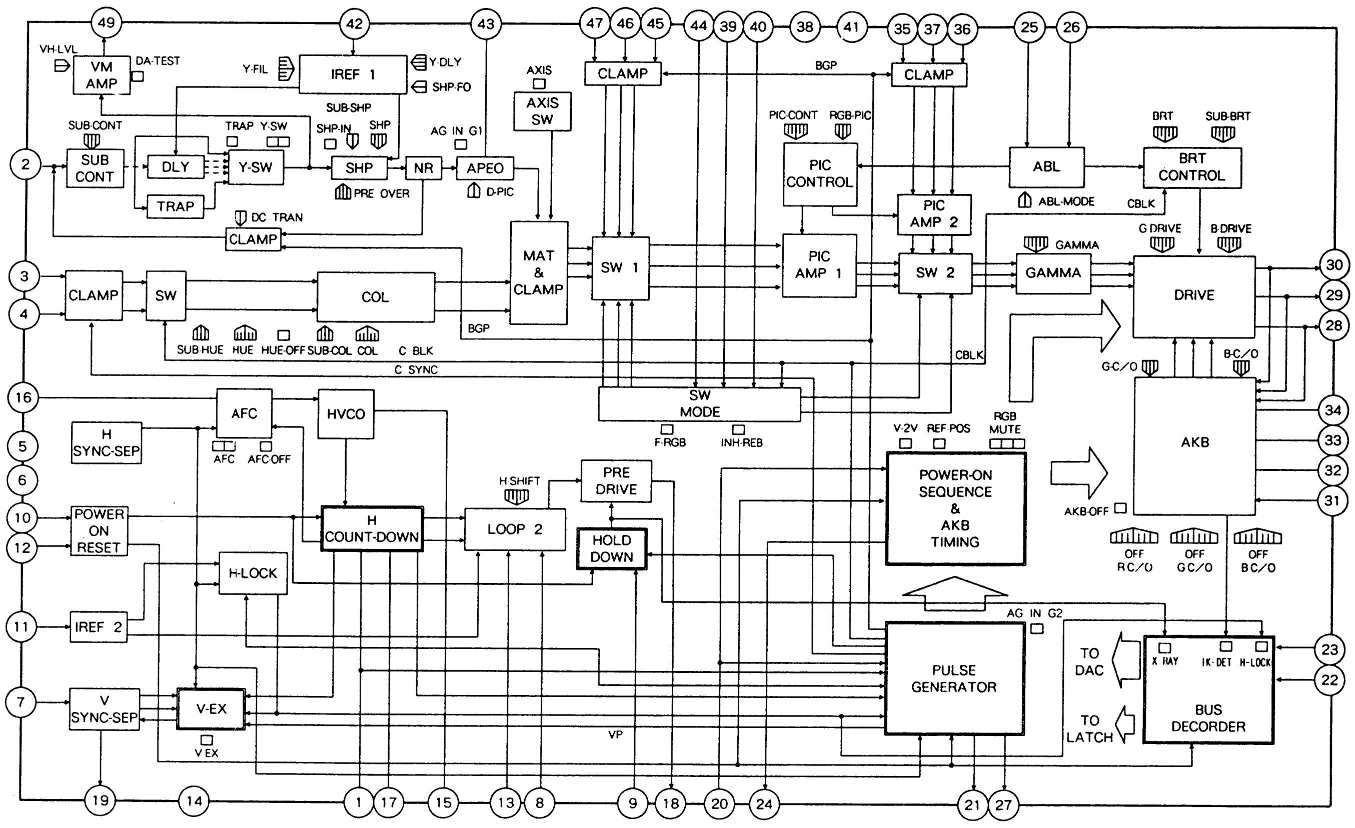
• A BOARD IC201 TDA6612


PLL
FILTER
MULTI PLEXER
INTEGRATOR
MATRIX
CROSS ADJ
54KHz FILTER
I²CBUS
REFERENCE VOLTAGE
VOLUME HEADPHONES
TREBLE
VOLUME MAIN CONTROL
CLIPPING DETECTOR
BASE WIDTH
SWITCH
VOLUME PER CONTROL
QUASI STEREO
BASS

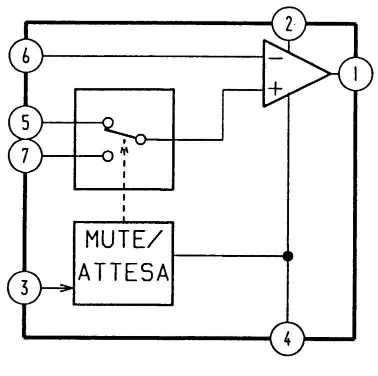
• A BOARD IC301 TDA9145


SWITCH
I2CBUS
TIMING
IDENT
BANDPASS
ACC
CLOCHE
FOCTRL
SECAM DEMOD
DELAY
PEAKING
CHROMABP
PLL
HUE
PAL/NTSC DEMOD
SWITCHI
TRRPS
SWITCH
DOUBLER
BIAS

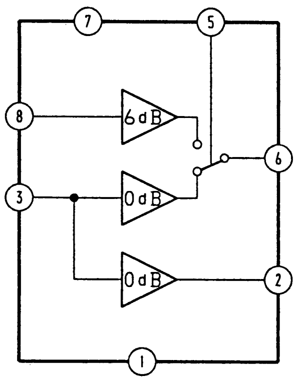
• A BOARD IC304 CXA1587S


VH-LVL
VM AMP
DA-TEST
Y-FIL
IREF 1
Y-DLY
SHP-FO
SUB-SHP
SUB-CONT
SUB CONT
TRAP
Y-SW
DLY
SHP-IN
SHP
NR
AG IN G1
APEO
PRE OVER
D-PIC
DC TRAN
CLAMP
AXIS
AXIS SW
CLAMP
BGP
CLAMP
MAT & CLAMP
SW 1
PIC-CONT
RGB-PIC
PIC CONTROL
PIC AMP 2
PIC AMP 1
SW 2
ABL
ABL-MODE
BRT
SUB-BRT
BRT CONTROL
CBLK
G DRIVE
B DRIVE
GAMMA
DRIVE
CLAMP
SW
COL
SUB HUE
HUE
HUE-OFF
SUB-COL
COL
C BLK
C SYNC
G-C/O
B-C/O
SW MODE
F-RGB
INH-REB
AFC
AFC-OFF
HVCO
H SYNC-SEP
POWER ON RESET
H COUNT-DOWN
H SHIFT
LOOP 2
PRE DRIVE
HOLD DOWN
V-2V
REF-POS
RGB MUTE
POWER-ON SEQUENCE & AKB TIMING
AKB
AKB-OFF
OFF RC/O
OFF GC/O
OFF BC/O
H-LOCK
IREF 2
AG IN G2
PULSE GENERATOR
TO DAC
TO LATCH
X RAY
IK-DET
H-LOCK
BUS DECORDER
V SYNC-SEP
V-EX
VP

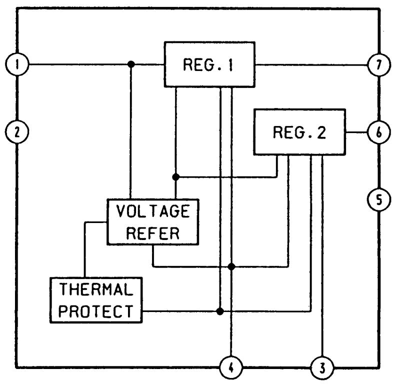
• A BOARD IC251 TDA2052


MUTE/ ATTESA

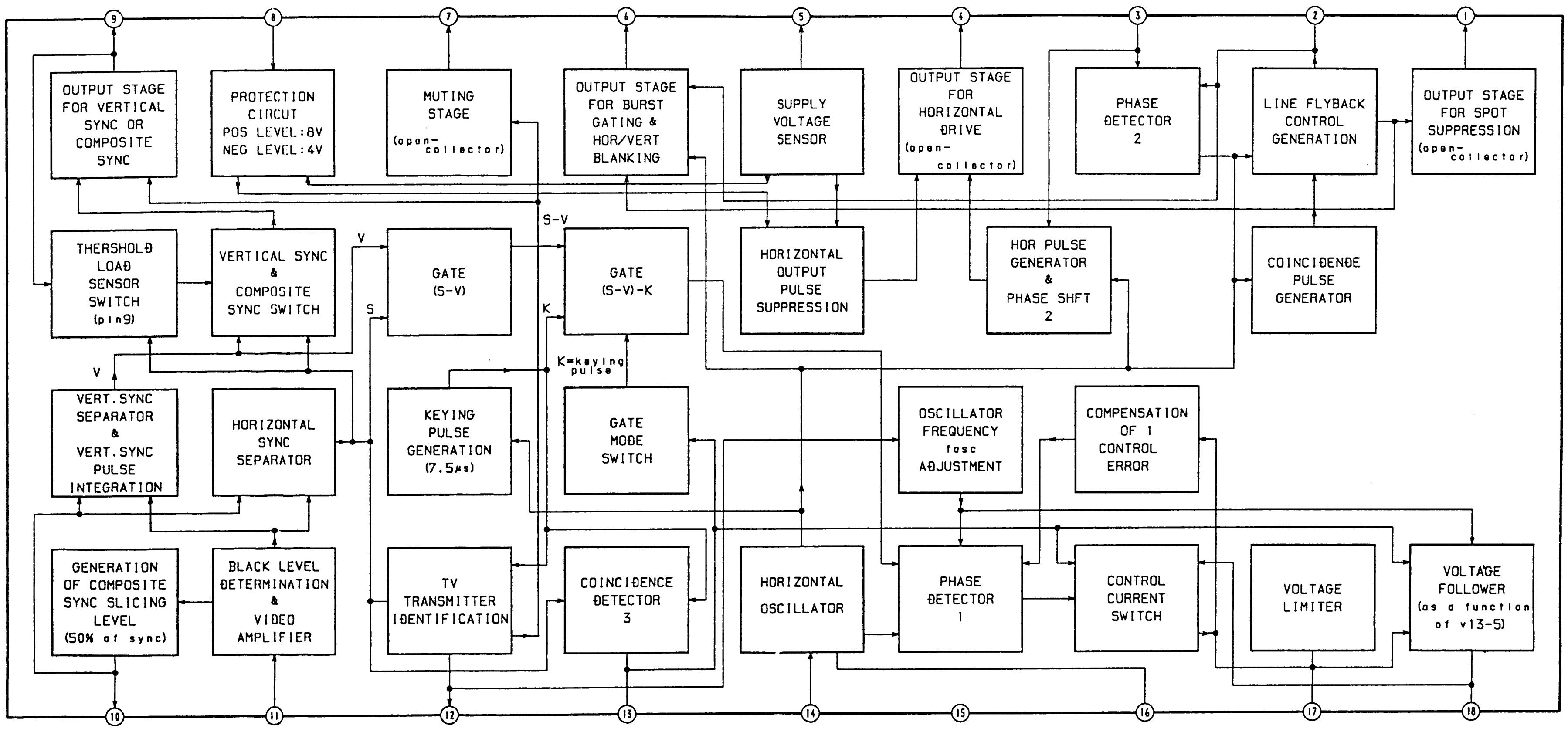
• A BOARD IC402 TEA2114



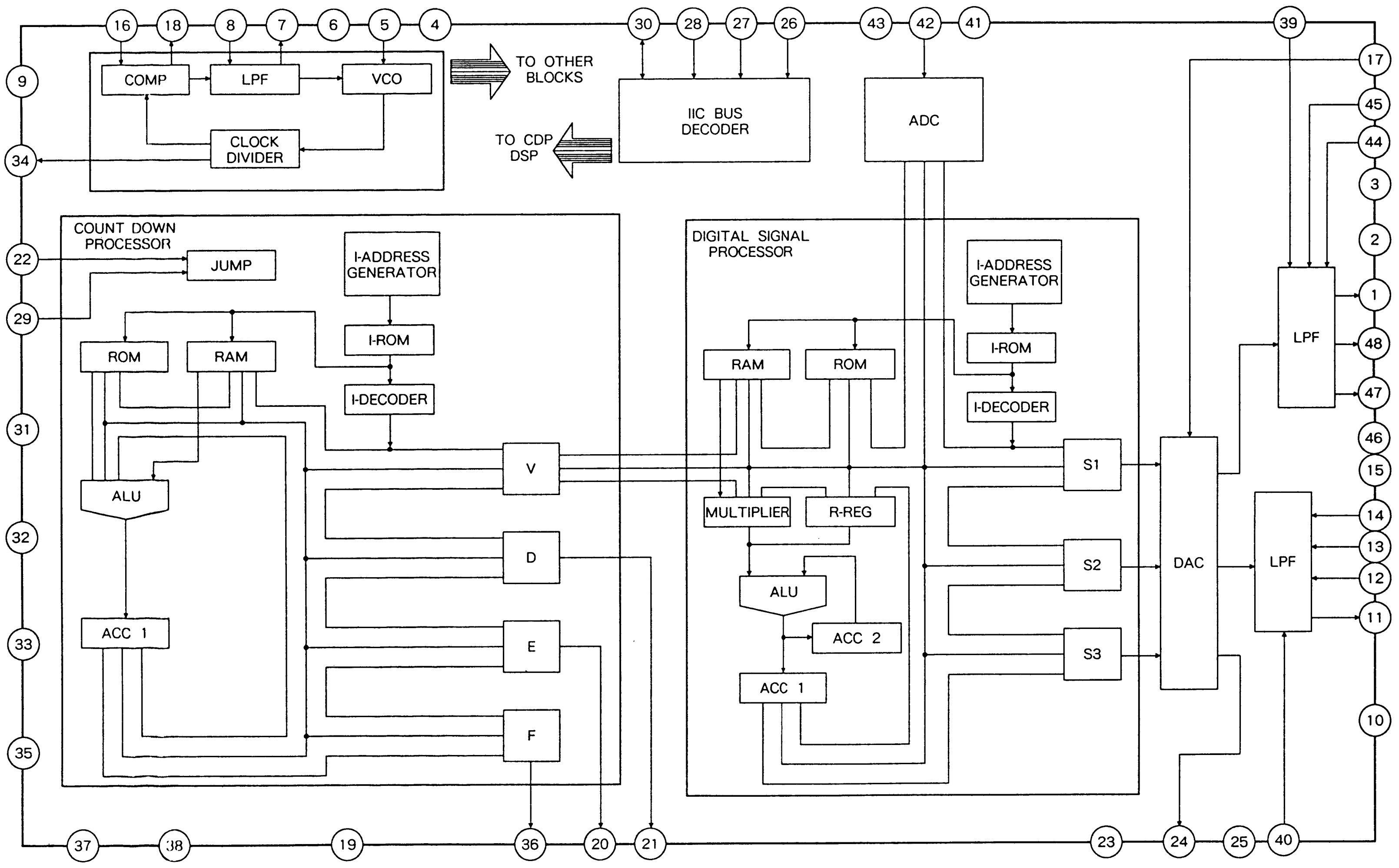
• A BOARD IC681 TDA8134

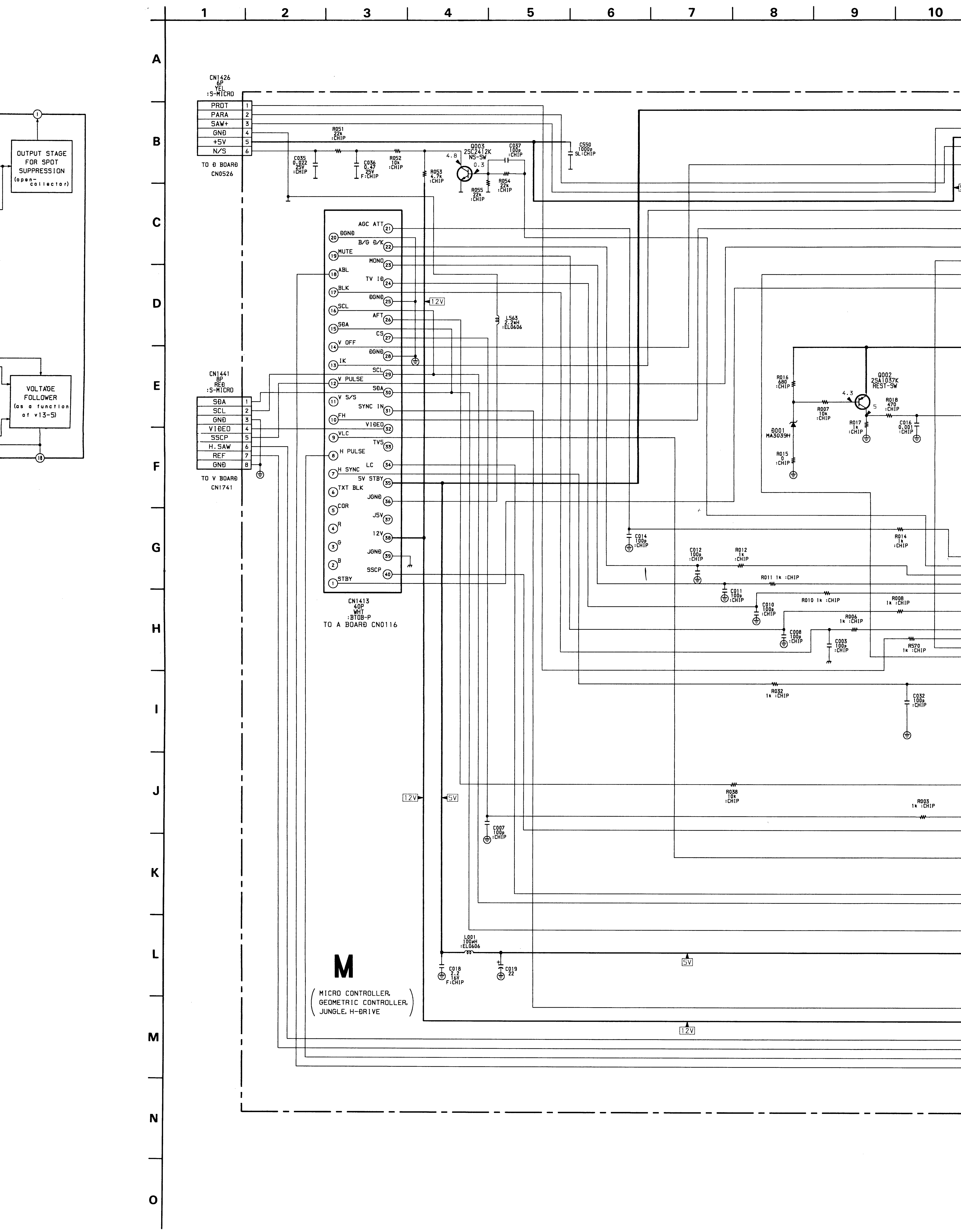

REG. 1
REG. 2
VOLTAGE REFER
THERMAL PROTECT

- **M BOARD IC501 TDA2595-V9**

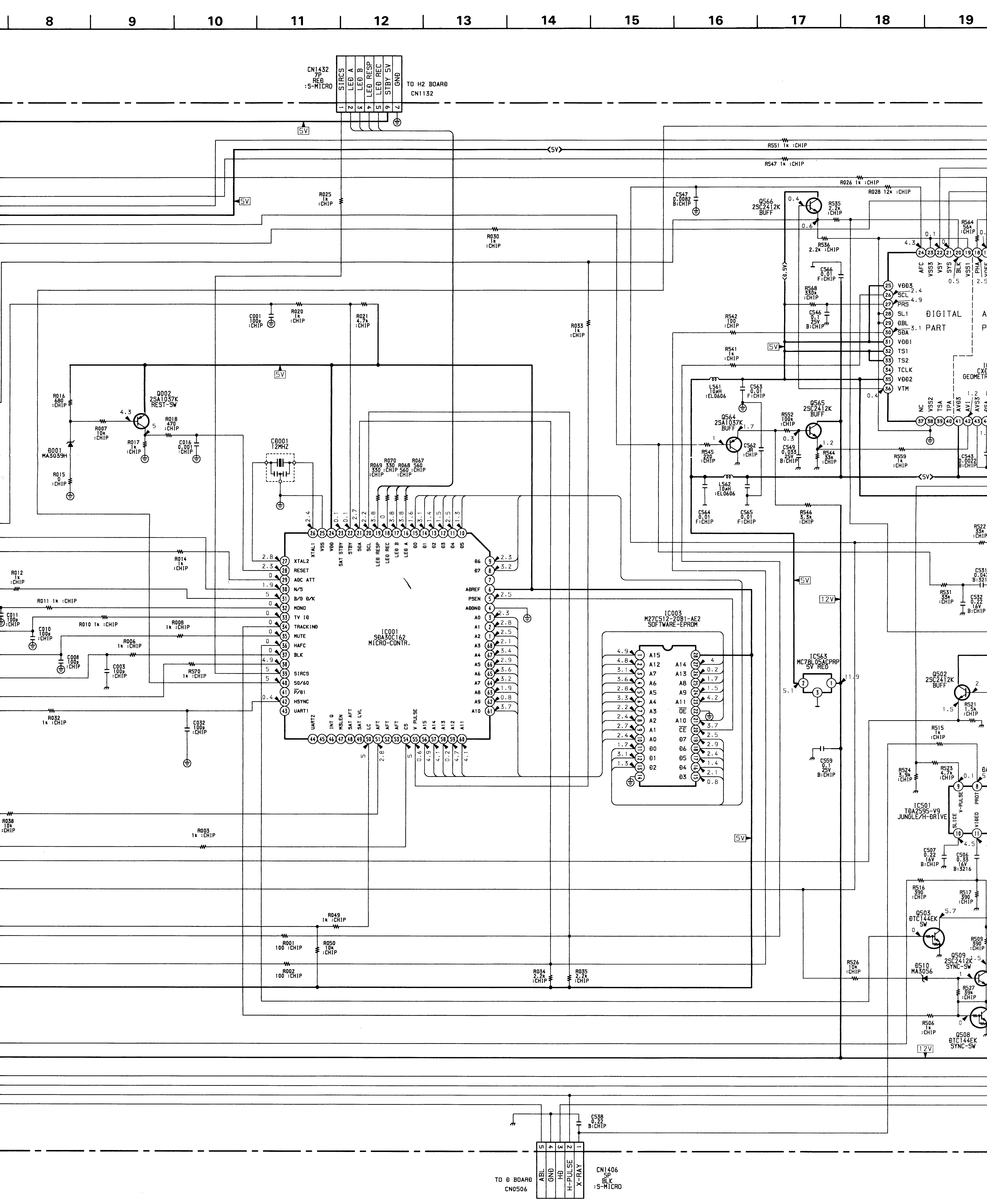

OUTPUT STAGE FOR VERTICAL SYNC OR COMPOSITE SYNC
PROTECTION CIRCUIT POS LEVEL:8V NEG LEVEL:4V
MUTING STAGE (open-collector)
OUTPUT STAGE FOR BURST GATING & HOR/VERT BLANKING
SUPPLY VOLTAGE SENSOR
OUTPUT STAGE FOR HORIZONTAL DRIVE (open-collector)
PHASE DETECTOR 2
LINE FLYBACK CONTROL GENERATION
OUTPUT STAGE FOR SPOT SUPPRESSION (open-collector)
THERSHOLD LOAD SENSOR SWITCH (pin9)
VERTICAL SYNC & COMPOSITE SYNC SWITCH
V
S-V
GATE (S-V)
S
K
GATE (S-V)-K
HORIZONTAL OUTPUT PULSE SUPPRESSION
HOR PULSE GENERATOR & PHASE SHFT 2
COINCIDENCE PULSE GENERATOR
V
K=keying pulse
VERT.SYNC SEPARATOR & VERT.SYNC PULSE INTEGRATION
HORIZONTAL SYNC SEPARATOR
KEYING PULSE GENERATION (7.5µs)
GATE MODE SWITCH
OSCILLATOR FREQUENCY fosc ADJUSTMENT
COMPENSATION OF 1 CONTROL ERROR
GENERATION OF COMPOSITE SYNC SLICING LEVEL (50% of sync)
BLACK LEVEL DETERMINATION & VIDEO AMPLIFIER
TV TRANSMITTER IDENTIFICATION
COINCIDENCE DETECTOR 3
HORIZONTAL OSCILLATOR
PHASE DETECTOR 1
CONTROL CURRENT SWITCH
VOLTAGE LIMITER
VOLTAGE FOLLOWER (as a function of v13-5)
9
8
7
6
5
4
3
2
1
10
11
12
13
14
15
16
17
18

- **M BOARD IC561 CXD2018Q**


16
18
8
7
6
5
4
30
28
27
26
43
42
41
39
COMP
LPF
VCO
CLOCK DIVIDER
TO OTHER BLOCKS
TO CDP DSP
IIC BUS DECODER
ADC
9
34
22
29
31
32
33
35
COUNT DOWN PROCESSOR
JUMP
I-ADDRESS GENERATOR
I-ROM
I-DECODER
ROM
RAM
ALU
ACC 1
V
D
E
F
DIGITAL SIGNAL PROCESSOR
I-ADDRESS GENERATOR
I-ROM
I-DECODER
RAM
ROM
MULTIPLIER
R-REG
ALU
ACC 2
ACC 1
S1
S2
S3
DAC
LPF
LPF
17
45
44
3
2
1
48
47
46
15
14
13
12
11
10
37
38
19
36
20
21
23
24
25
40



1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
OUTPUT STAGE FOR SPOT SUPPRESSION (open-collector)
VOLTAGE FOLLOWER (as a function of v13-5)
CN1426 6P YEL :S-MICRO
PROT
PARA
SAW+
GND
+5V
N/S
TO D BOARD CN0526
CN1441 8P RED :S-MICRO
SDA
SCL
GND
VIDEO
SSCP
H.SAW
REF
GND
TO V BOARD CN1741
R051 22k :CHIP
C035 0.022 25V :CHIP
C036 0.47 25V F:CHIP
R052 10k :CHIP
R053 4.7k :CHIP
Q003 2SC2412K NS-SW
4.8
0.3
C037 100p :CHIP
R054 22k :CHIP
R055 22k :CHIP
C550 1000p SL:CHIP
AGC ATT 21
20 DGND
B/G D/K 22
19 MUTE
MONO 23
18 ABL
TV ID 24
17 BLK
DGND 25
16 SCL
AFT 26
15 SDA
CS 27
14 V OFF
DGND 28
13 IK
SCL 29
12 V PULSE
SDA 30
11 V S/S
SYNC IN 31
10 FH
VIDEO 32
9 VLC
TV5 33
8 H PULSE
LC 34
7 H SYNC
5V STBY 35
6 TXT BLK
JGND 36
5 COR
J5V 37
4 R
12V 38
3 G
JGND 39
2 B
SSCP 40
1 STBY
CN1413 40P WHT :BTOB-P TO A BOARD CN0116
12V
L563 2.2mH :EL0606
R016 680 :CHIP
Q002 2SA1037K REST-SW
4.3
5
R007 10k :CHIP
R018 470 :CHIP
D001 MA3039H
R017 1k :CHIP
C016 0.001 :CHIP
R015 0 :CHIP
C014 100p :CHIP
R014 1k :CHIP
C012 100p :CHIP
R012 1k :CHIP
R011 1k :CHIP
C011 100p :CHIP
C010 100p :CHIP
R010 1k :CHIP
R008 1k :CHIP
R006 1k :CHIP
C008 100p :CHIP
C003 100p :CHIP
R570 1k :CHIP
R032 1k :CHIP
C032 100p :CHIP
R038 10k :CHIP
R003 1k :CHIP
12V
5V
C007 100p :CHIP
L001 100µH :EL0606
C018 2.2 16V F:CHIP
C019 22
5V
12V
M
MICRO CONTROLLER, GEOMETRIC CONTROLLER, JUNGLE, H-DRIVE


8
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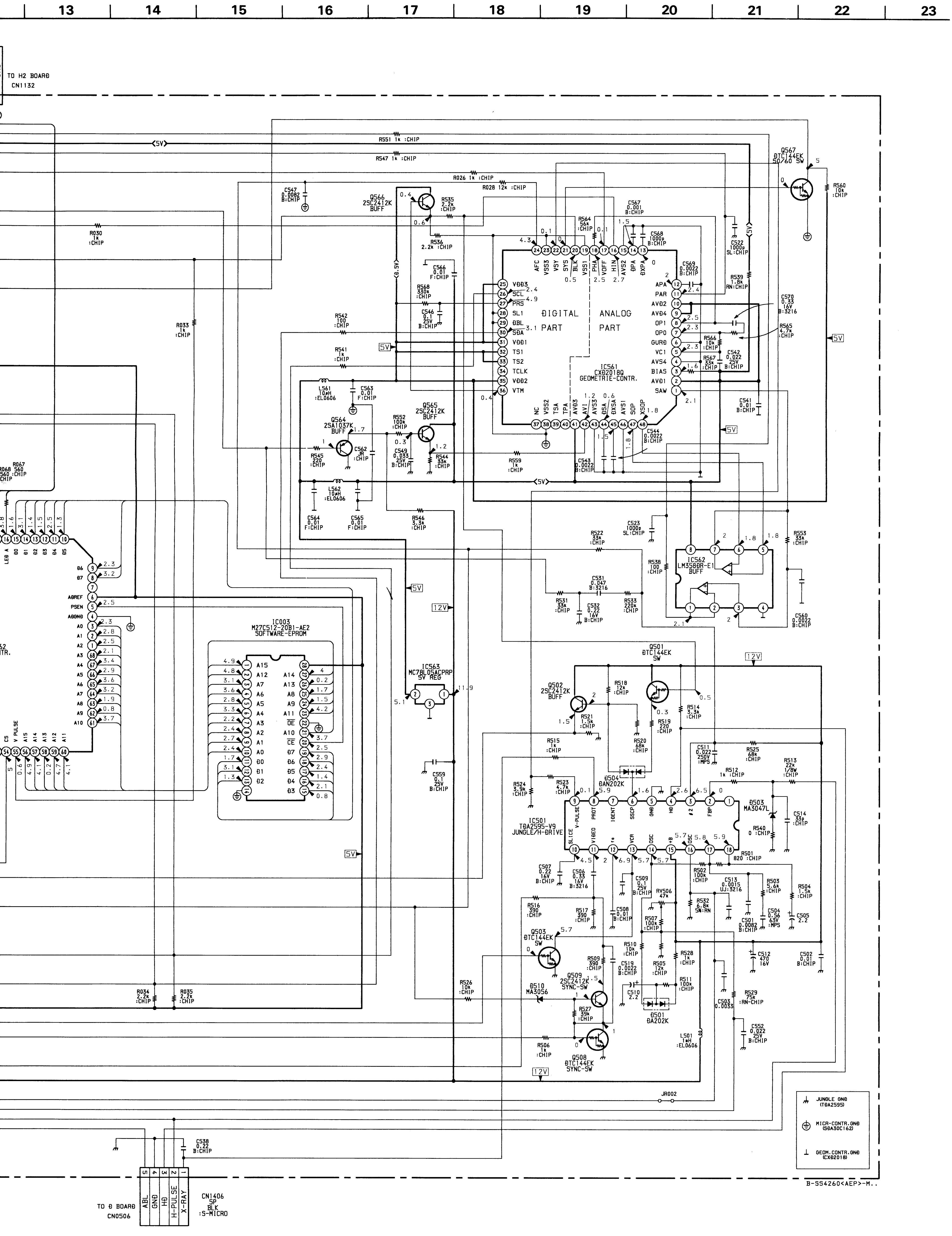
18
19
CN1432 7P RED :S-MICRO
SIRCS
LED A
LED B
LED RESP
LED REC
STBY 5V
GND
TO H2 BOARD CN1132
5V
R551 1k :CHIP
R547 1k :CHIP
R026 1k :CHIP
R028 12k :CHIP
R025 1k :CHIP
R030 1k :CHIP
C547 0.0082 B:CHIP
Q566 2SC2412K BUFF
R535 2.2k :CHIP
R536 2.2k :CHIP
R564 56k :CHIP
C566 0.01 F:CHIP
R568 330k :CHIP
C546 0.1 25V B:CHIP
R542 100 :CHIP
R541 1k :CHIP
DIGITAL PART
VDD3
SCL
PRS
SL1
DBL
SDA
VDD1
TS1
TS2
TCLK
VDD2
VTM
AFC
VSS3
VSY
SYS
BLK
VSS1
PHA
NC
VSS2
TPA
AV03
AV1
AVS3
GEOMETR
C001 100p :CHIP
R020 1k :CHIP
R021 4.7k :CHIP
R033 1k :CHIP
R016 680 :CHIP
Q002 2SA1037K REST-SW
R018 470 :CHIP
R007 10k :CHIP
R017 1k :CHIP
C016 0.001 :CHIP
D001 MA3039H
R015 0 :CHIP
CD001 12MHZ
R070 330
R068 560
R067 560
R069 330
L561 10μH :EL0606
C563 0.01 F:CHIP
Q564 2SA1037K BUFF
Q565 2SC2412K BUFF
R552 100k :CHIP
C562 JR :CHIP
C549 0.033 25V B:CHIP
R544 33k :CHIP
R545 220 :CHIP
R559 1k :CHIP
C543 0.0022 B:CHIP
L562 10μH :EL0606
C564 0.01 F:CHIP
C565 0.01 F:CHIP
R546 3.3k :CHIP
R522 33k :CHIP
R014 1k :CHIP
R012 1k :CHIP
R011 1k :CHIP
C011 100p :CHIP
C010 100p :CHIP
R010 1k :CHIP
R008 1k :CHIP
R006 1k :CHIP
C008 100p :CHIP
C003 100p :CHIP
R570 1k :CHIP
R032 1k :CHIP
C032 100p :CHIP
XTAL1
VSS
VDD
SAT STBY
STBY
SDA
SCL
LED RESP
LED REC
LED B
LED A
XTAL2
RESET
ADC ATT
N/S
B/G G/K
MONO
TV IB
TRACKING
MUTE
HAFC
BLK
SIRCS
50/60
P/B1
HSYNC
UART1
UART2
INT Q
MBLEN
SAT AFT
SAT LVL
LC
AFT
CS
V PULSE
A15
A14
A13
A12
A11
A10
A9
A8
A7
A6
A5
A4
A3
A2
A1
A0
ABREF
PSEN
AGGND
D0
D1
D2
D3
D4
D5
D6
D7
IC001 SDA30C162 MICRO-CONTR.
IC003 M27C512-20B1-AE2 SOFTWARE-EPROM
OE
CE
IC563 MC78L05ACPRP 5V REG
12V
C559 0.1 25V B:CHIP
R531 33k :CHIP
C532 0.22 16V B:CHIP
Q502 2SC2412K BUFF
R521 1.5k :CHIP
R515 1k :CHIP
R524 3.9k :CHIP
R523 4.7k :CHIP
IC501 TDA2595-V9 JUNGLE/H-DRIVE
V-PULSE
PROT
SLICE
VIDEO
C507 0.22 16V B:CHIP
C506 0.33 16V B:3216
R516 390 :CHIP
R517 390 :CHIP
Q503 DTC144EK SW
R509 390 :CHIP
Q509 2SC2412K SYNC-SW
D510 MA3056
R527 39k :CHIP
R526 10k :CHIP
R506 1k :CHIP
Q508 DTC144EK SYNC-SW
R038 10k :CHIP
R003 1k :CHIP
R049 1k :CHIP
R001 100 :CHIP
R050 10k :CHIP
R002 100 :CHIP
R034 2.2k :CHIP
R035 2.2k :CHIP
C538 0.22 B:CHIP
ABL
GND
HD
H-PULSE
X-RAY
CN1406 5P BLK :S-MICRO
TO D BOARD CN0506



13
14
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16
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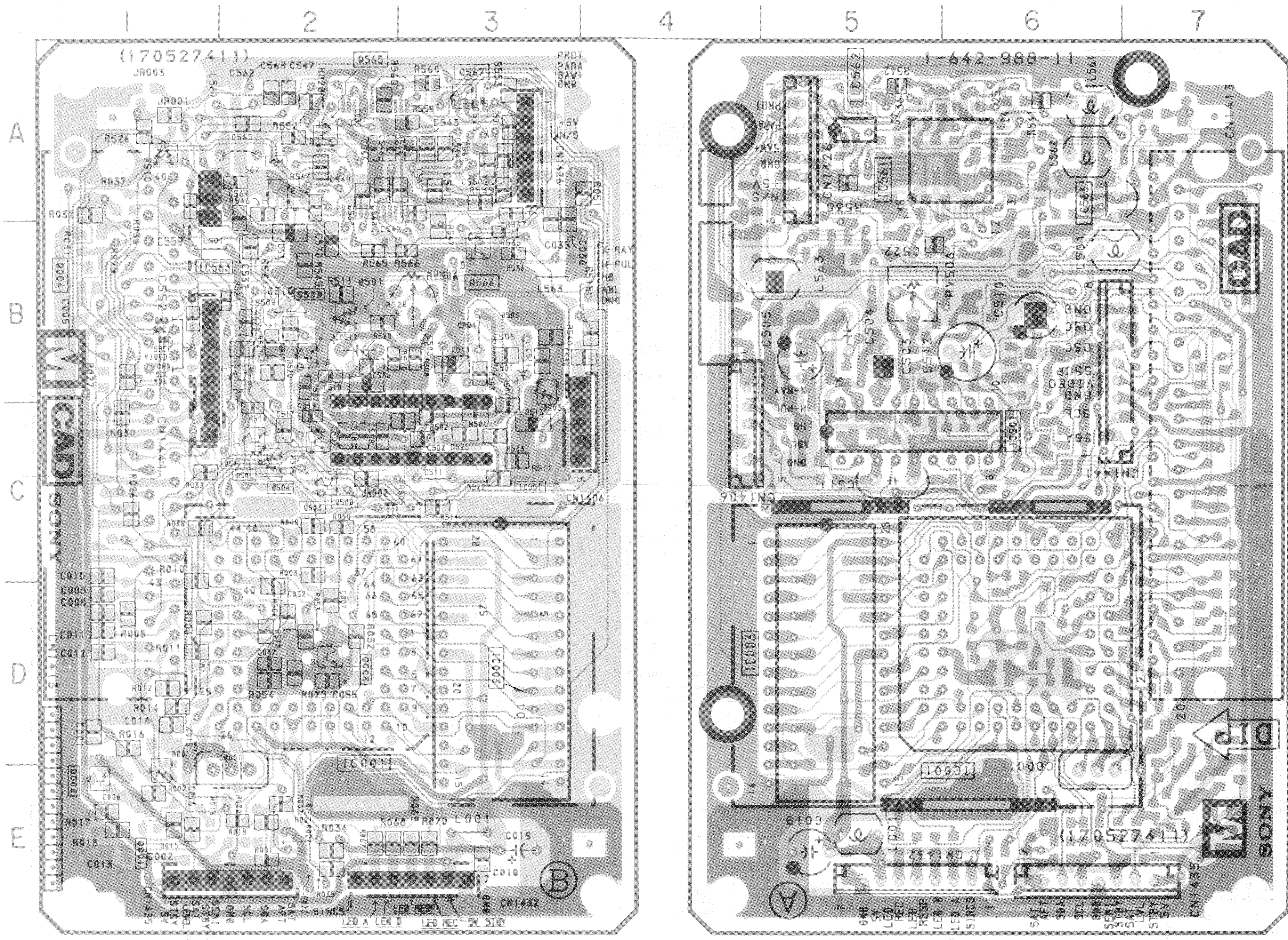
21
22
23
TO H2 BOARD CN1132
IC561 CXD2018Q GEOMETRIE-CONTR.
DIGITAL PART
ANALOG PART
Q567 DTC144EK 50/60 SW
Q566 2SC2412K BUFF
Q565 2SC2412K BUFF
Q564 2SA1037K BUFF
IC562 LM358DR-E1 BUFF
IC003 M27C512-20B1-AE2 SOFTWARE-EPROM
IC563 MC78L05ACPRP 5V REG
Q501 DTC144EK SW
Q502 2SC2412K BUFF
IC501 TDA2595-V9 JUNGLE/H-DRIVE
D504 DAN202K
D503 MA3047L
Q503 DTC144EK SW
Q509 2SC2412K SYNC-SW
Q508 DTC144EK SYNC-SW
D510 MA3056
D501 DA202K
L501 1mH :EL0606
L561 10μH :EL0606
L562 10μH :EL0606
JR002
JUNGLE GND (TDA2595)
MICR-CONTR. GND (SDA30C162)
GEOM. CONTR. GND (CXD2018)
TO D BOARD CN0506
CN1406 5P BLK :S-MICRO
ABL
GND
HD
H-PULSE
X-RAY
5V
12V
B-SS4260<AEP>-M..

– M BOARD –


1
2
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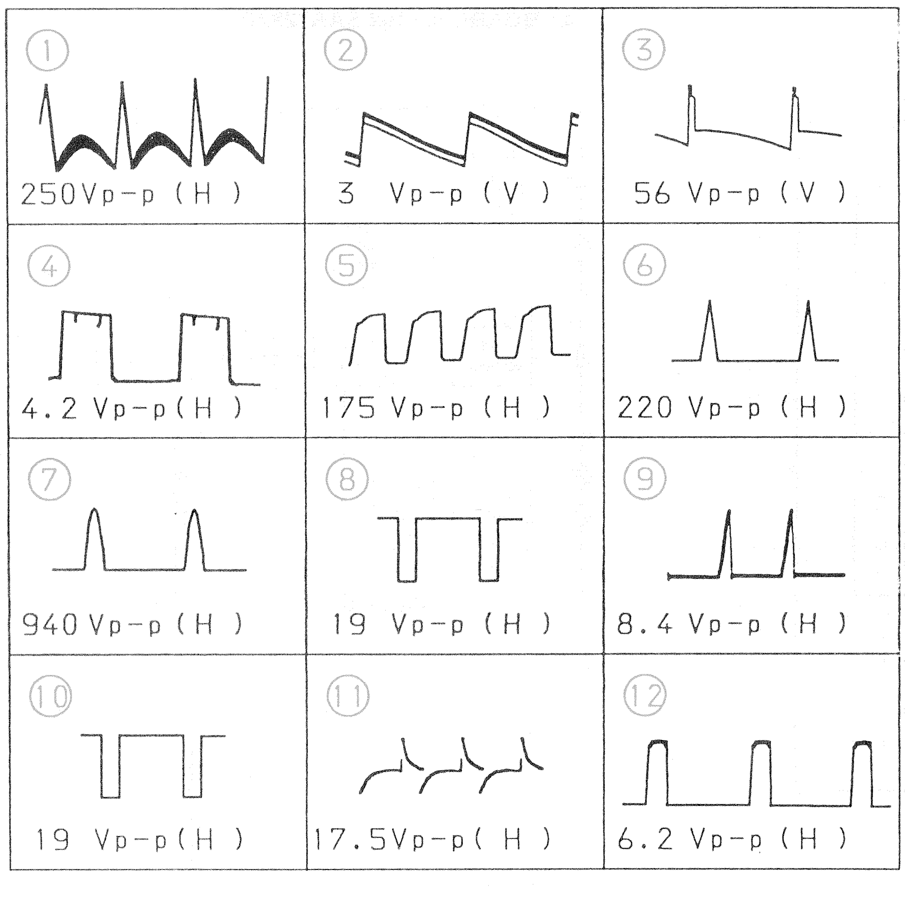
4
5
6
7
A
B
C
D
E
(170527411)
1-642-988-11
M
CAD
SONY
IC001
IC003
IC501
IC561
IC562
IC563
RV506
CN1406
CN1413
CN1426
CN1432
CN1435
CN1441
PROT
PARA
SAW+
GND
+5V
N/S
X-RAY
H-PUL
HD
ABL
GND
SDA
SCL
GND
VIDEO
SSCP
OSC
GND
STBY 5V
SAT
AFT
SBA
SCL
GND
SIRCS
LED A
LED B
LED REC
RESP
5V STBY
DIP
Ⓐ
Ⓑ

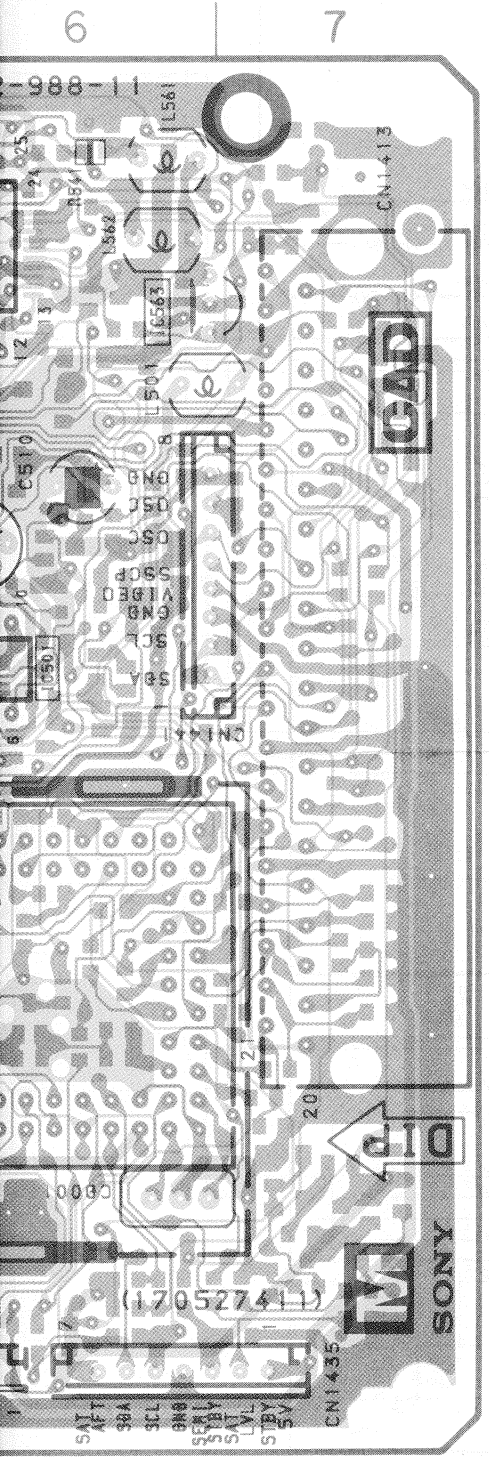
Note :
- ▢ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

IC		DIODE	
IC001	D – 2	D001	E – 1
IC003	D – 3	D501	B – 1
IC501	C – 3	D503	B – 3
IC561	A – 6	D504	C – 2
IC562	A – 5	D510	A – 1
IC563	A – 1		

TRANSISTOR		VARIABLE RESISTOR	
Q002	E – 2	RV506	B – 3
Q003	D – 2		
Q501	C – 2		
Q502	B – 2		
Q503	C – 2		
Q508	C – 2		
Q509	B – 2		
Q564	A – 2		
Q565	A – 2		
Q566	B – 3		
Q567	A – 3		

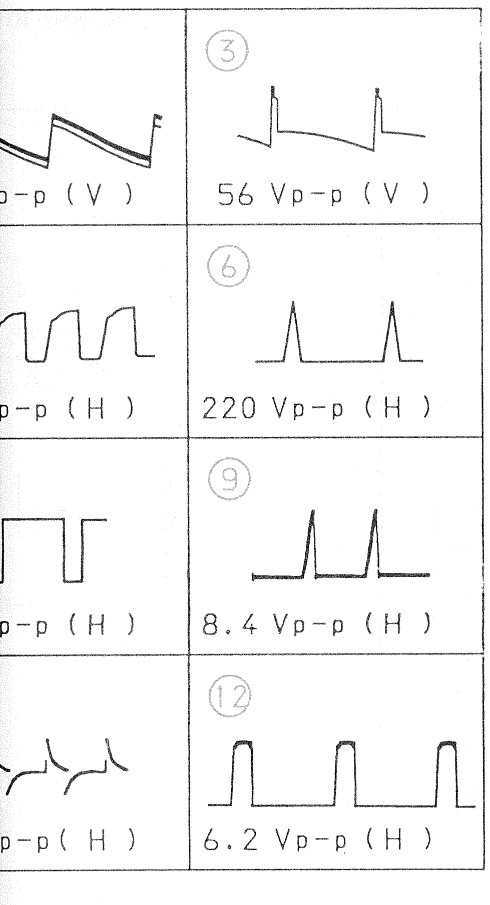
• WAVEFORMS D BOARD

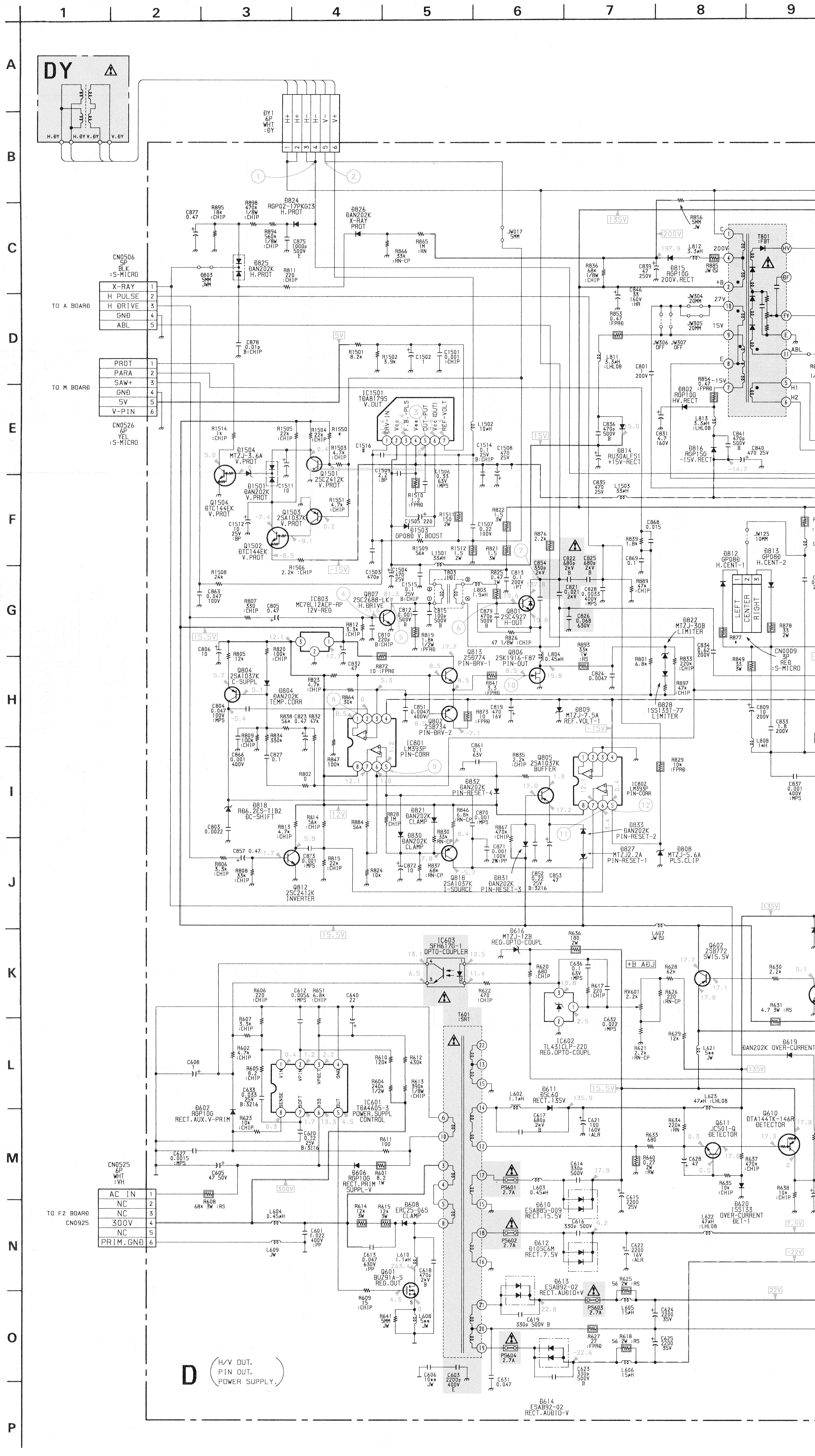



6
7
2-988-11
CN1413
CAD
DIO
M
SONY
(1705274 11)
CN1435
GND
VIDEO
SCL
SDA
STBY 5V

▨ : Pattern from the side which enables seeing.

▨ : Pattern of the rear side.




1
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3
4
5
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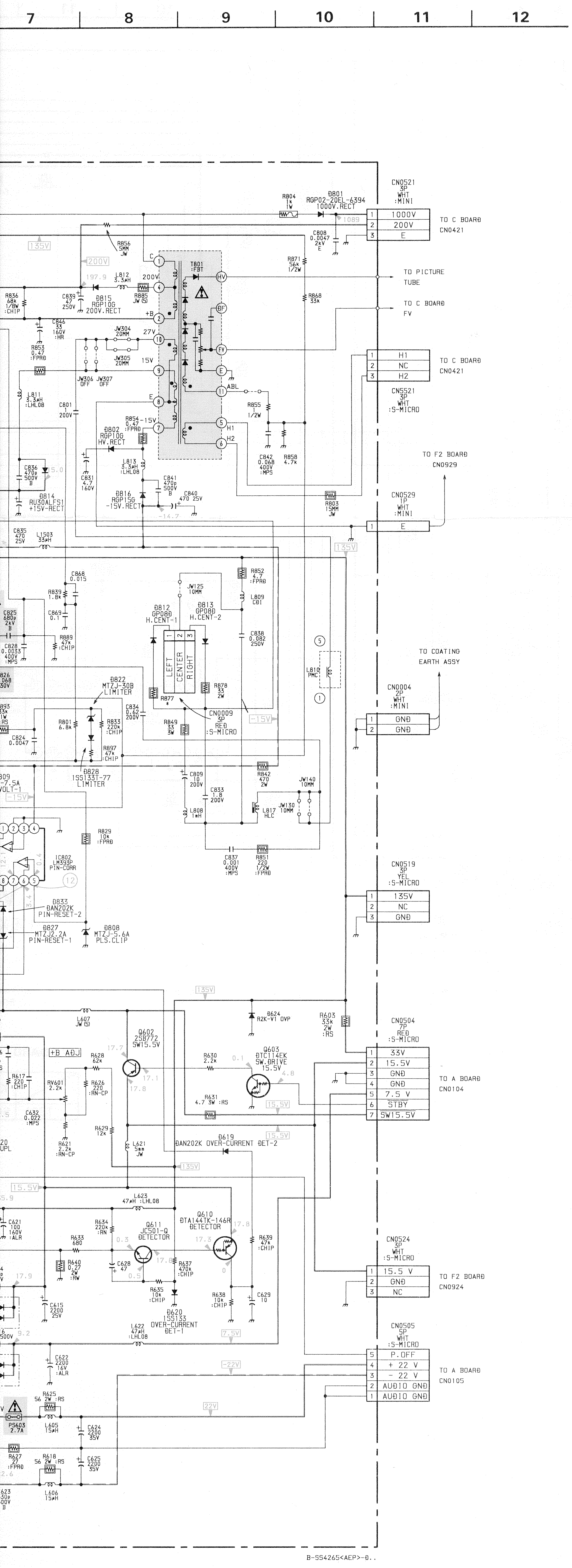
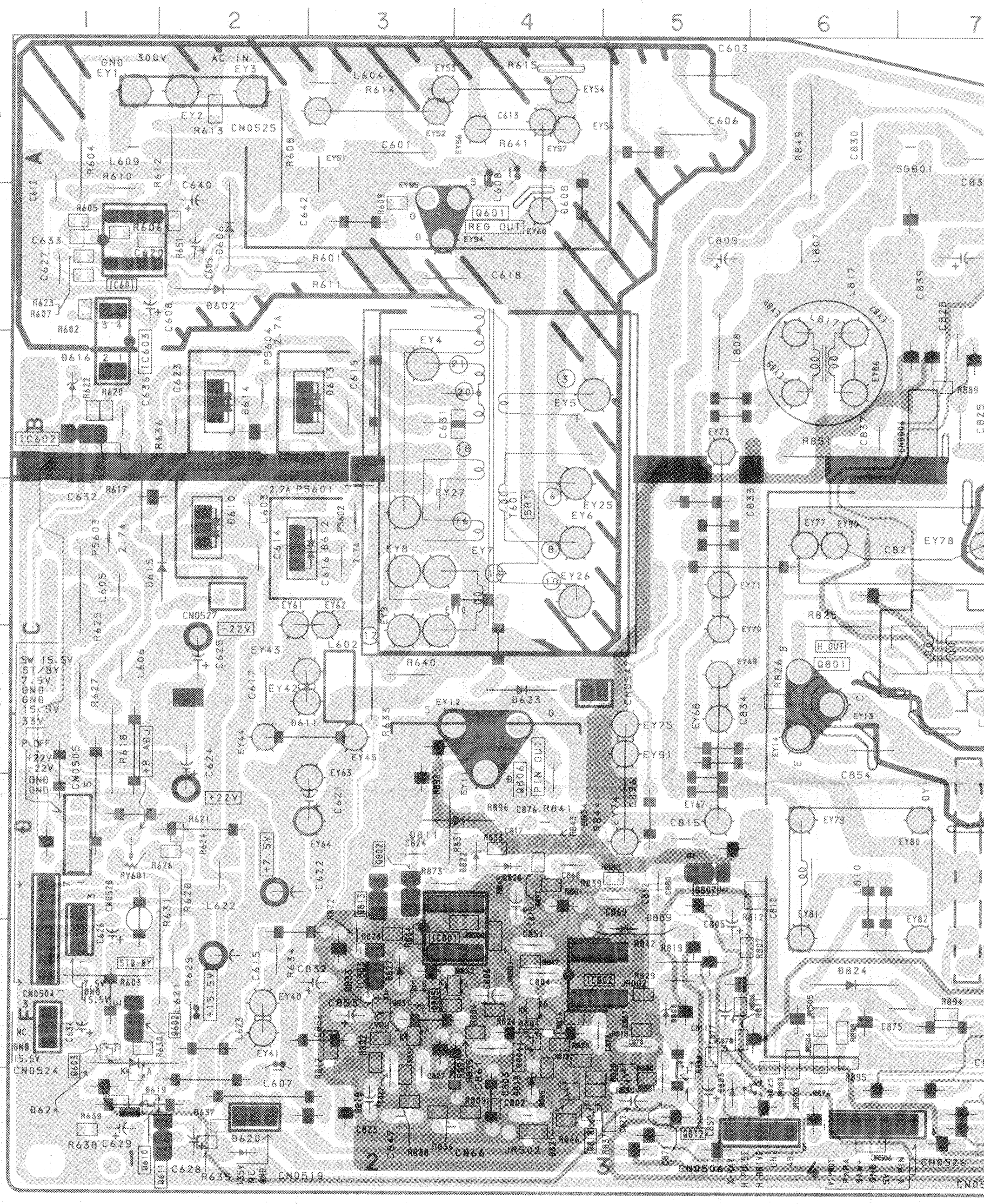
7
8
9
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
DY
H.DY
V.DY
DY1 6P WHT :DY
H+
H+
H-
H-
V-
V+
X-RAY
H PULSE
H DRIVE
GND
ABL
TO A BOARD
CN0506 5P BLK :S-MICRO
PROT
PARA
SAW+
GND
5V
V-PIN
TO M BOARD
CN0526 6P YEL :S-MICRO
IC1501 TDA8179S V.OUT
IC803 MC78L12ACP-RP 12V-REG
IC801 LM393P PIN-CORR
IC802 LM393P PIN-CORR
Q807 2SC2688-LK H.DRIVE
Q801 2SC4927 H-OUT
Q813 2SB774 PIN-DRV-1
Q802 2SB734 PIN-DRV-2
Q806 2SK1916-F87 PIN-OUT
Q805 2SA1037K BUFFER
Q812 2SC2412K INVERTER
Q818 2SA1037K I-SOURCE
T801 :FBT
T803 :HDT
D824 RGP02-17PKG23 H.PROT
D826 DAN202K X-RAY PROT
D815 RGP10G 200V.RECT
D816 RGP15G -15V.RECT
D814 RU3OALFS1 +15V-RECT
D812 GP08D H.CENT-1
D813 GP08D H.CENT-2
D822 MTZJ-30B LIMITER
D828 1SS133T-77 LIMITER
D809 MTZJ-7.5A REF.VOLT-1
D808 MTZJ-5.6A PLS.CLIP
CN0009 3P RED :S-MICRO
LEFT
CENTER
RIGHT
IC603 SFH617G-1 OPTO-COUPLER
IC602 TL431CLP-Z20 REG.OPTO-COUPL
IC601 TDA4605-3 POWER SUPPL CONTROL
T601 :SRT
Q601 BUZ91A-S REG.OUT
Q602 2SB772 SW15.5V
Q610 DTA144TK-146R DETECTOR
Q611 JC501-Q DETECTOR
D611 D5L60 RECT.135V
D610 ESAB85-009 RECT.15.5V
D612 D10SC6M RECT.7.5V
D613 ESAB92-02 RECT.AUDIO+V
D614 ESAB92-02 RECT.AUDIO-V
D616 MTZJ-12B REG.OPTO-COUPL
D619 DAN202K OVER-CURRENT
D620 1SS133 OVER-CURRENT DET-1
D602 RGP10G RECT.AUX.V-PRIM
D606 RGP10G RECT.PRIM SUPPL-V
D608 ERC25-06S CLAMP
PS601 2.7A
PS602 2.7A
PS603 2.7A
PS604 2.7A
+B ADJ
AC IN
NC
NC
300V
NC
PRIM.GND
TO F2 BOARD CN0925
CN0525 6P WHT :VH
135V
200V
15V
15.5V
12V
5V
-15V
7.5V
-22V
22V
300V
D
H/V OUT, PIN OUT, POWER SUPPLY.


7
8
9
10
11
12
CN0521 3P WHT :MINI
1 1000V
2 200V
3 E
TO C BOARD CN0421
D801 RGP02-20EL-6394 1000V.RECT
R804 1k 1W
C808 0.0047 2kV E
TO PICTURE TUBE
TO C BOARD FV
T801 FBT
R871 56k 1/2W
R868 33k
CN5521 3P WHT :S-MICRO
1 H1
2 NC
3 H2
TO C BOARD CN0421
TO F2 BOARD CN0929
CN0529 1P WHT :MINI
1 E
R803 15MM JW
D815 RGP10G 200V.RECT
D802 RGP10G HV.RECT
D816 RGP15G -15V.RECT
D814 RU3OALFS1 +15V-RECT
D812 GP08D H.CENT-1
D813 GP08D H.CENT-2
LEFT CENTER RIGHT
CN0009 3P RED :S-MICRO
D822 MTZJ-30B LIMITER
D828 1SS133T-77 LIMITER
IC802 LM393P PIN-CORR
D833 DAN202K PIN-RESET-2
D827 MTZJ2.2A PIN-RESET-1
D808 MTZJ-5.6A PLS.CLIP
L817 HLC
TO COATING EARTH ASSY
CN0004 2P WHT :MINI
1 GND
2 GND
CN0519 3P YEL :S-MICRO
1 135V
2 NC
3 GND
CN0504 7P RED :S-MICRO
1 33V
2 15.5V
3 GND
4 GND
5 7.5 V
6 STBY
7 SW15.5V
TO A BOARD CN0104
Q602 2SB772 SW15.5V
Q603 DTC114EK SW.DRIVE 15.5V
D624 RZK-V1 OVP
D619 DAN202K OVER-CURRENT DET-2
+B ADJ
RV601 2.2k
Q611 JC501-Q DETECTOR
Q610 DTA144TK-146R DETECTOR
D620 1SS133 OVER-CURRENT DET-1
CN0524 3P WHT :S-MICRO
1 15.5 V
2 GND
3 NC
TO F2 BOARD CN0924
CN0505 5P WHT :S-MICRO
5 P.OFF
4 + 22 V
3 - 22 V
2 AUDIO GND
1 AUDIO GND
TO A BOARD CN0105
PS603 2.7A
B-SS4265<AEP>-D..

– D BOARD –


1
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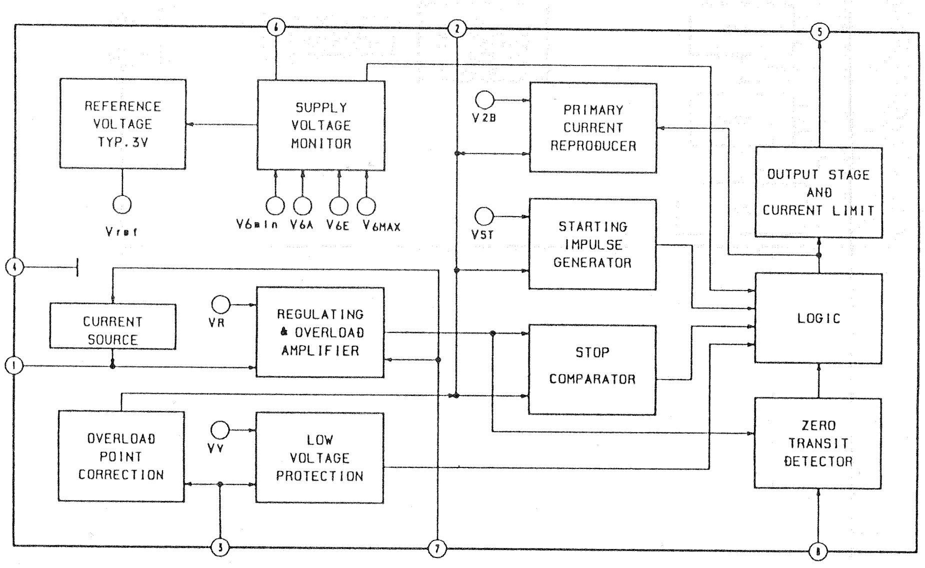
6
7
A
B
C
D
E
F
G
H
AC IN
IC601
IC602
IC603
IC801
IC802
Q601
Q801
REG OUT
H OUT
PS601
PS602
PS603
CN0504
CN0505
CN0519
CN0521
CN0524
CN0525
CN0526
CN0527
CN0529
+B ADJ
+22V
-22V
+7.5V
+15.5V

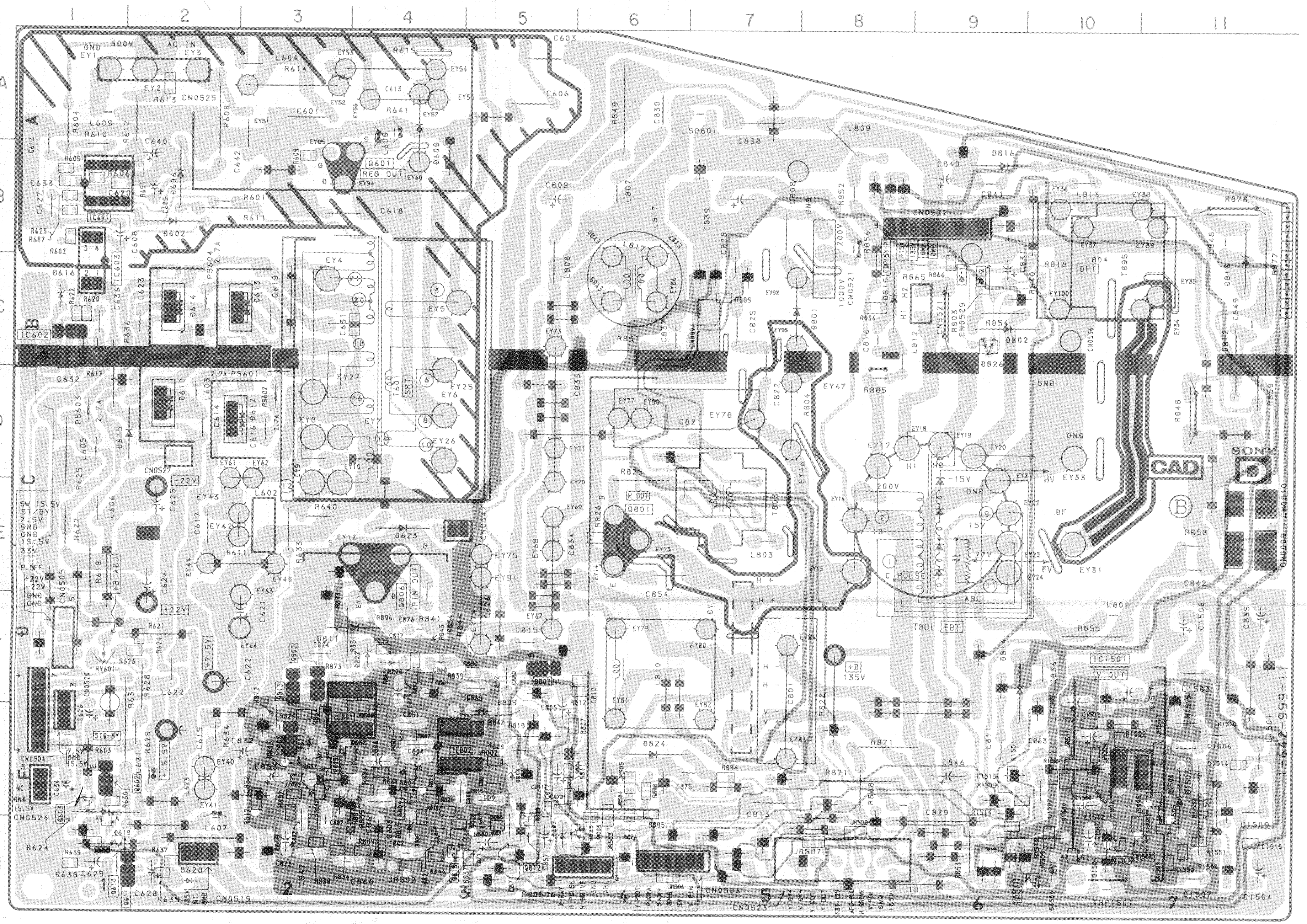
Note :

- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

• D BOARD IC601 TDA4605-3


REFERENCE VOLTAGE TYP.3V
Vref
SUPPLY VOLTAGE MONITOR
V6min V6A V6E V6MAX
V28
PRIMARY CURRENT REPRODUCER
VST
STARTING IMPULSE GENERATOR
OUTPUT STAGE AND CURRENT LIMIT
CURRENT SOURCE
VR
REGULATING & OVERLOAD AMPLIFIER
LOGIC
STOP COMPARATOR
OVERLOAD POINT CORRECTION
VV
LOW VOLTAGE PROTECTION
ZERO TRANSIT DETECTOR
①
②
③
④
⑤
⑥
⑦
⑧
⑨

– D BOARD –


1
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6
7
8
9
10
11
A
B
C
D
E
F
G
H
SONY
CAD
D
1-642-999-11
IC601
IC602
IC603
IC801
IC802
IC803
IC1501
Q601
REG OUT
T801
FBT
T802
T803
SRT
CN0505
CN0519
CN0522
CN0523
CN0524
CN0526
CN0527
AC IN
300V
GND
+B ADJ
+7.5V
+22V
-22V
+15.5V
+B 135V
H OUT
PIN OUT
V OUT
HV
FV
ABL
PULSE
200V
15V
-15V
27V

Note :

- ░ : Pattern from the side which enables seeing.
- ▒ : Pattern of the rear side.

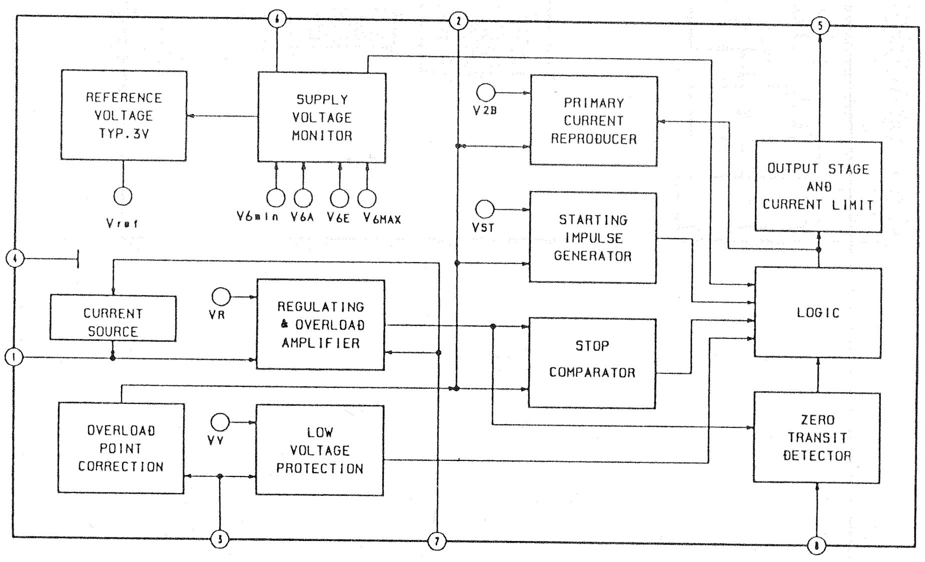
IC	
IC601	B – 1
IC602	C – 1
IC603	C – 1
IC801	G – 3
IC802	G – 4
IC803	G – 3
IC1501	G – 10

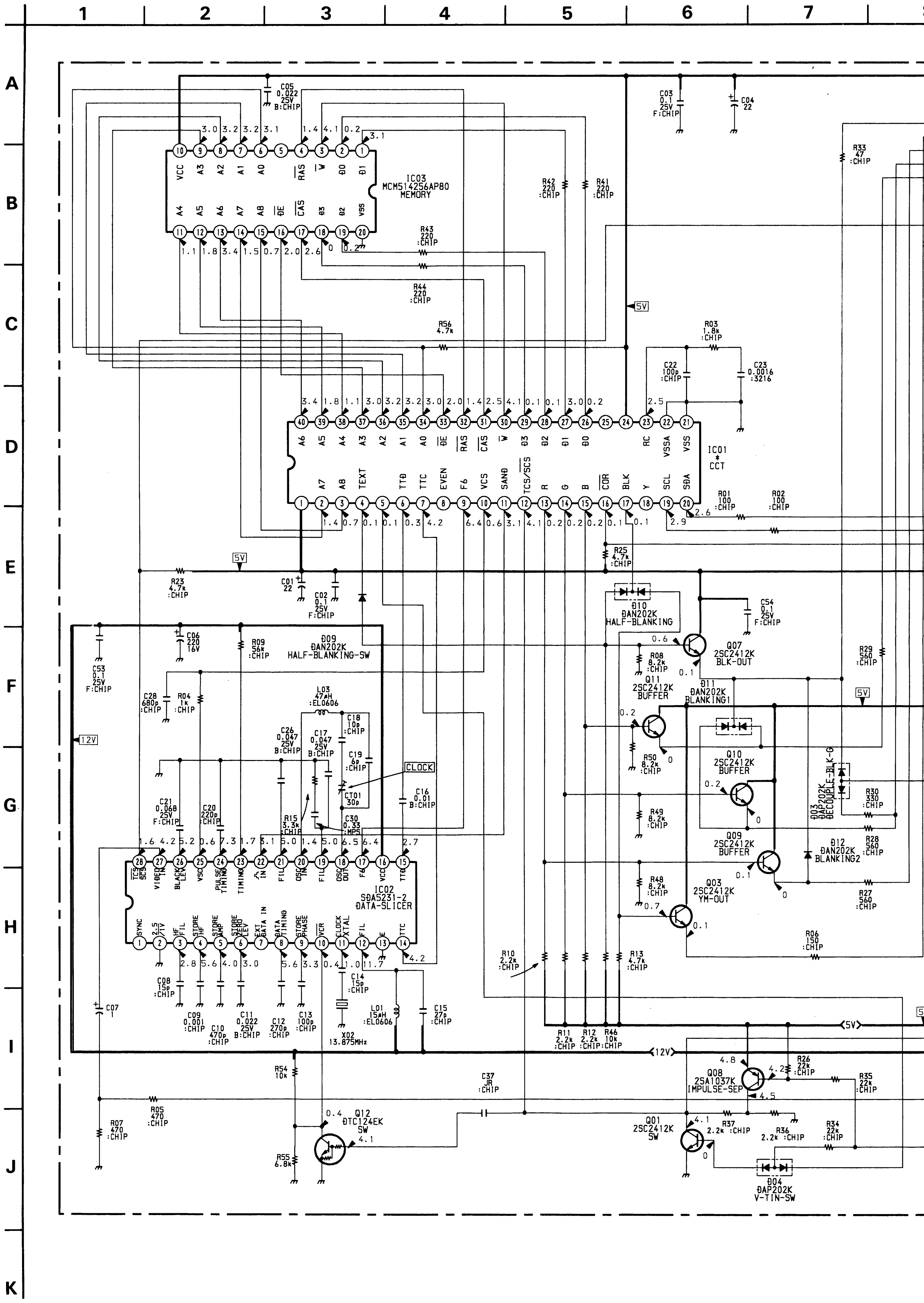
TRANSISTOR	
Q601	B – 3
Q602	G – 1
Q603	G – 1
Q610	H – 1
Q611	H – 2
Q801	E – 6
Q802	F – 3
Q804	G – 4
Q805	G – 3
Q806	E – 4
Q807	F – 5
Q812	H – 5
Q813	F – 3
Q818	H – 4
Q1501	H – 10
Q1502	G – 11
Q1503	H – 11
Q1504	H – 10

DIODE	
D602	B – 2
D606	B – 2
D608	A – 4
D610	D – 2
D611	E – 2
D612	D – 3
D613	C – 3
D614	C – 2
D616	C – 1
D619	H – 1
D620	H – 2
D624	G – 1
D801	C – 7
D802	C – 9
D803	H – 5
D804	G – 4
D808	G – 5
D809	G – 5
D812	C – 11
D813	C – 11
D814	F – 9
D815	C – 8
D816	B – 9
D818	H – 4
D821	H – 4
D822	F – 4
D824	G – 6
D825	H – 6
D826	C – 9
D827	G – 3
D828	F – 4
D830	H – 5
D831	G – 3
D832	G – 4
D833	G – 3
D1501	H – 10
D1503	G – 11
D1504	H – 10

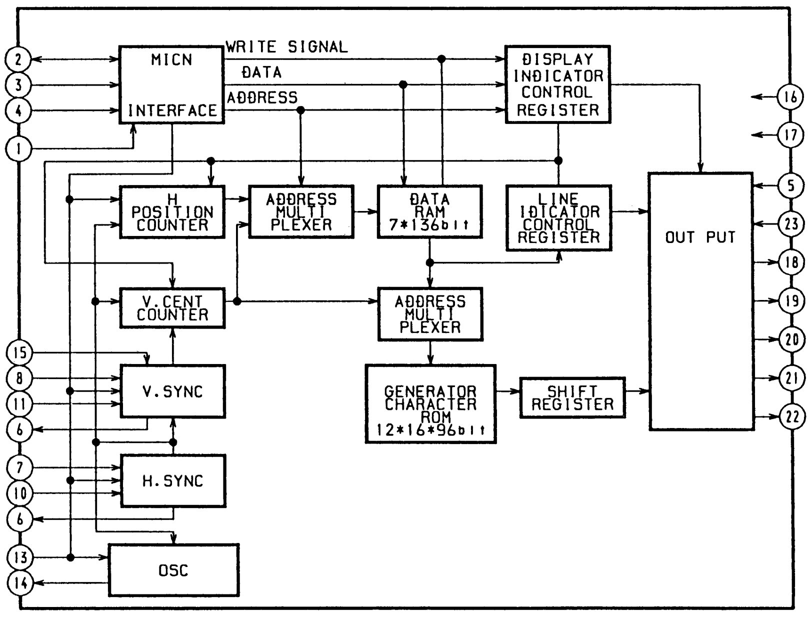
VARIABLE RESISTOR	
RV601	F – 1

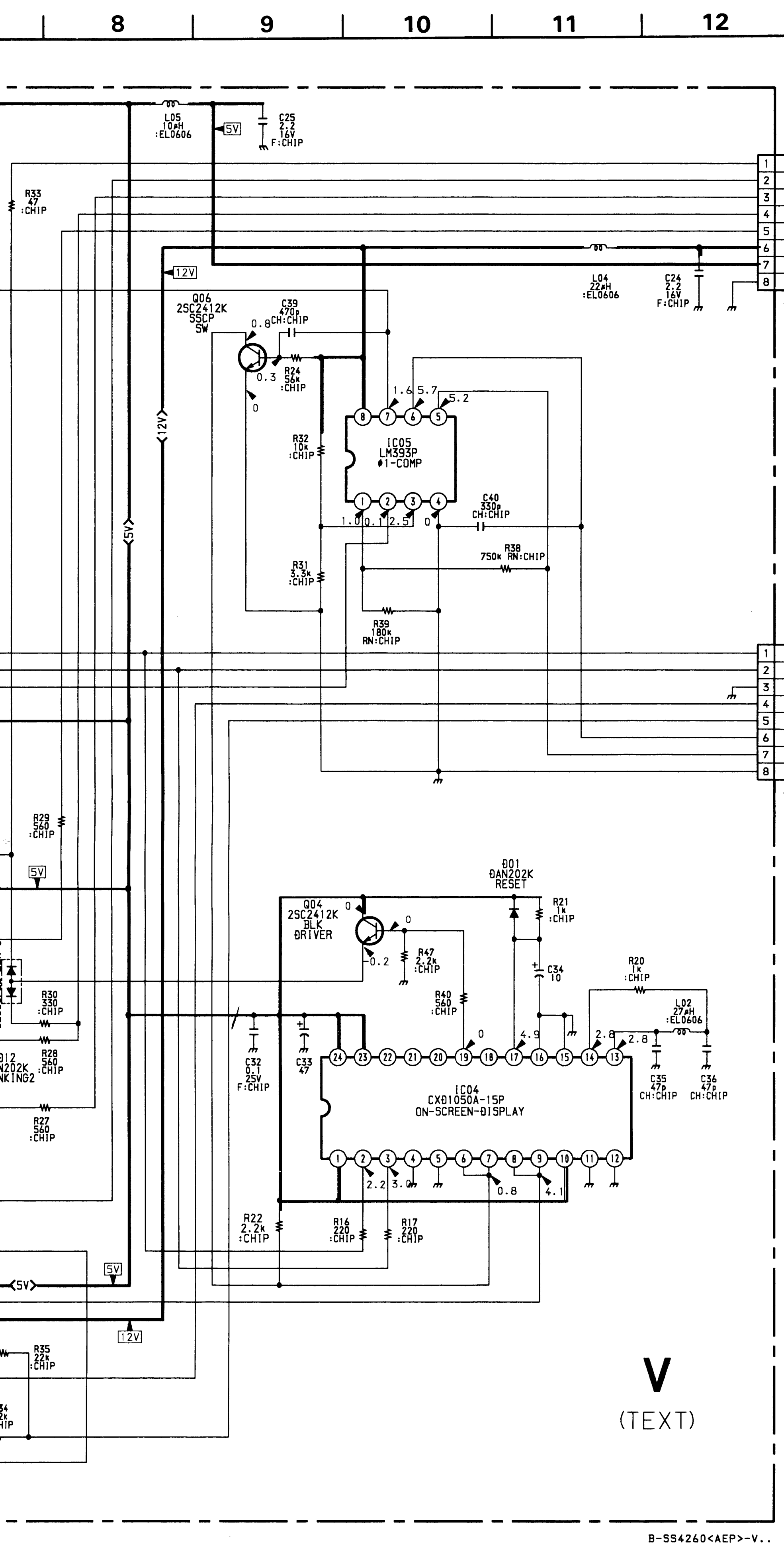
• D BOARD IC601 TDA4605-3


REFERENCE VOLTAGE TYP.3V
SUPPLY VOLTAGE MONITOR
PRIMARY CURRENT REPRODUCER
OUTPUT STAGE AND CURRENT LIMIT
STARTING IMPULSE GENERATOR
CURRENT SOURCE
REGULATING & OVERLOAD AMPLIFIER
LOGIC
STOP COMPARATOR
OVERLOAD POINT CORRECTION
LOW VOLTAGE PROTECTION
ZERO TRANSIT DETECTOR
Vref
V6min
V6A
V6E
V6MAX
V2B
VST
VR
VV
1
2
3
4
5
6
7
8

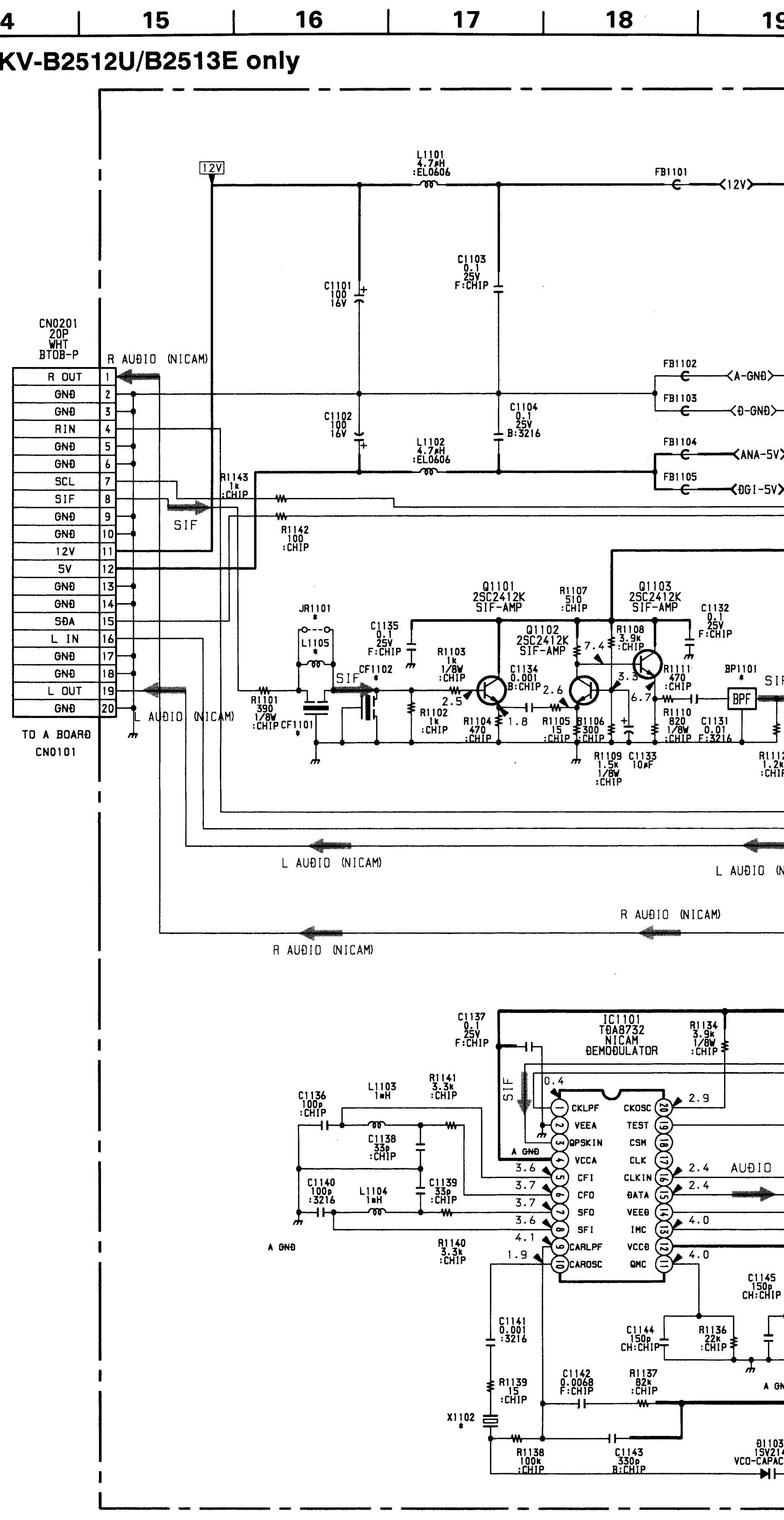

1
2
3
4
5
6
7
A
B
C
D
E
F
G
H
I
J
K
IC03
MCM514256AP80
MEMORY
VCC
A3
A2
A1
A0
RAS
W
D0
D1
A4
A5
A6
A7
A8
OE
CAS
D3
D2
VSS
C05
0.022
25V
B:CHIP
C03
0.1
25V
F:CHIP
C04
22
R33
47
:CHIP
R42
220
:CHIP
R41
220
:CHIP
R43
220
:CHIP
R44
220
:CHIP
R56
4.7k
5V
R03
1.8k
:CHIP
C22
100p
:CHIP
C23
0.0016
:3216
IC01
*
CCT
A6
A5
A4
A3
A2
A1
A0
OE
RAS
CAS
W
D3
D2
D1
D0
RC
VSSA
VSS
A7
A8
TEXT
TTθ
TTC
EVEN
F6
VCS
SANθ
TCS/SCS
R
G
B
COR
BLK
Y
SCL
SDA
R01
100
:CHIP
R02
100
:CHIP
R23
4.7k
:CHIP
C01
22
C02
0.1
25V
F:CHIP
R25
4.7k
:CHIP
D10
DAN202K
HALF-BLANKING
C54
0.1
25V
F:CHIP
C53
0.1
25V
F:CHIP
C06
220
16V
R09
56k
:CHIP
D09
DAN202K
HALF-BLANKING-SW
R08
8.2k
:CHIP
Q07
2SC2412K
BLK-OUT
Q11
2SC2412K
BUFFER
D11
DAN202K
BLANKING1
R29
560
:CHIP
C28
680p
:CHIP
R04
1k
:CHIP
L03
47μH
:EL0606
C18
10p
:CHIP
12V
C26
0.047
25V
B:CHIP
C17
0.047
25V
B:CHIP
C19
6p
:CHIP
CLOCK
R50
8.2k
:CHIP
Q10
2SC2412K
BUFFER
D03
DAP202K
BEGOUPLE-BLK-G
R30
330
:CHIP
C21
0.068
25V
F:CHIP
C20
220p
:CHIP
CT01
30p
C16
0.01
B:CHIP
R15
3.3k
:CHIP
C30
0.33
:MPS
R49
8.2k
:CHIP
Q09
2SC2412K
BUFFER
D12
DAN202K
BLANKING2
R28
560
:CHIP
TCS SCS
VIDEO IN
BLACK LEVEL
VSCS
PULSE TIMING
TIMING
V IN
FIL
OSC IN
FIL
OSC OUT
F6
VCC
TTθ
IC02
SDA5231-2
DATA-SLICER
R48
8.2k
:CHIP
Q03
2SC2412K
YM-OUT
R27
560
:CHIP
SYNC
2.5 TIV
HF FIL
STORE MF
STORE SYNC
STORE ZERO LEVEL
EXT DATA IN
DATA TIMING
STORE PHASE
VCR
CLOCK TOTAL
FIL
OE
TTC
R06
150
:CHIP
R10
2.2k
:CHIP
R13
4.7k
:CHIP
C08
15p
:CHIP
C14
15p
:CHIP
C07
1
C09
0.001
:CHIP
C10
470p
:CHIP
C11
0.022
25V
B:CHIP
C12
270p
:CHIP
C13
100p
:CHIP
L01
15μH
:EL0606
C15
27p
:CHIP
X02
13.875MHz
R11
2.2k
:CHIP
R12
2.2k
:CHIP
R46
10k
:CHIP
5V
12V
R54
10k
C37
JR
:CHIP
Q08
2SA1037K
IMPULSE-SEP
R26
22k
:CHIP
R35
22k
:CHIP
R07
470
:CHIP
R05
470
:CHIP
Q12
DTC124EK
SW
Q01
2SC2412K
SW
R37
2.2k
:CHIP
R36
2.2k
:CHIP
R34
22k
:CHIP
R55
6.8k
D04
DAP202K
V-TIN-SW

• V BOARD IC04 CXD1050A-15P


MICN
INTERFACE
WRITE SIGNAL
DATA
ADDRESS
DISPLAY INDICATOR CONTROL REGISTER
H POSITION COUNTER
ADDRESS MULTI PLEXER
DATA RAM 7*136bit
LINE INDICATOR CONTROL REGISTER
OUT PUT
V.CENT COUNTER
ADDRESS MULTI PLEXER
GENERATOR CHARACTER ROM 12*16*96bit
SHIFT REGISTER
V.SYNC
H.SYNC
OSC
2
3
4
1
15
8
11
6
7
10
6
13
14
16
17
5
23
18
19
20
21
22


8
9
10
11
12
13
CN1737
8P
WHT
:S-MICRO
BLK
YM
R
G
B
+12V
+5V
GND
TO A BOARD
CN0137
CN1741
8P
RED
:S-MICRO
SDA
SCL
GND
VIDEO
V.PULSE
H.SAW
REF
GND
TO M BOARD
CN1441
Q06
2SC2412K
SSCP
SW
IC05
LM393P
φ1-COMP
D01
DAN202K
RESET
Q04
2SC2412K
BLK
DRIVER
IC04
CXD1050A-15P
ON-SCREEN-DISPLAY
<5V>
<12V>
V
(TEXT)
B-SS4260<AEP>-V..

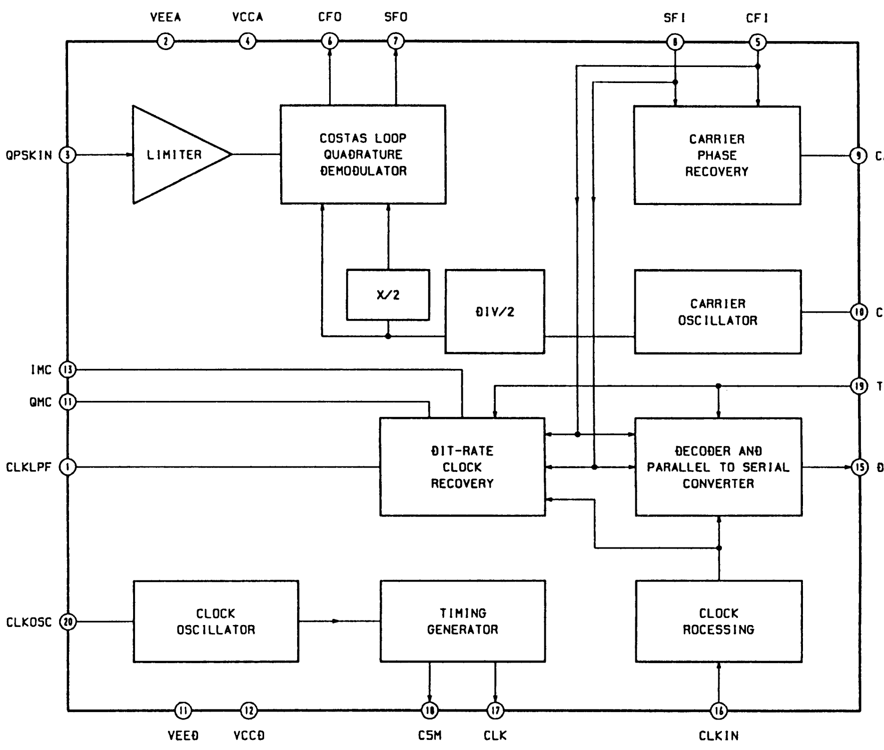
KV-B2512U/B2513E only

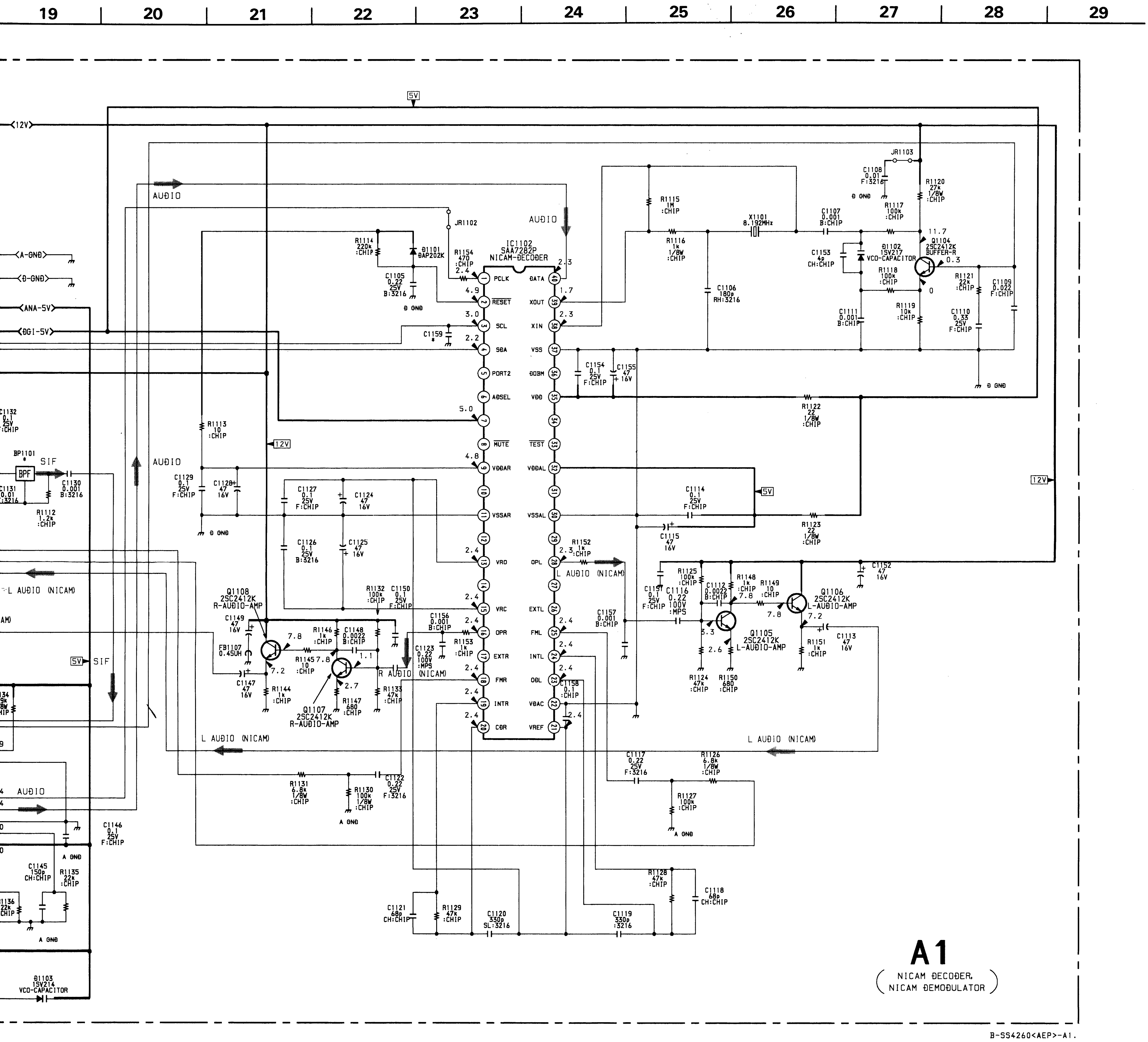

14
15
16
17
18
19
CN0201
20P
WHT
BTOB-P
R OUT
GND
GND
RIN
GND
GND
SCL
SIF
GND
GND
12V
5V
GND
GND
SDA
L IN
GND
GND
L OUT
GND
TO A BOARD
CN0101
R AUDIO (NICAM)
L AUDIO (NICAM)
SIF
Q1101
2SC2412K
SIF-AMP
Q1102
2SC2412K
SIF-AMP
Q1103
2SC2412K
SIF-AMP
BPF
<12V>
<A-GND>
<D-GND>
<ANA-5V>
<DGI-5V>
IC1101
TDA8732
NICAM
DEMODULATOR
CKLPF
VEEA
QPSKIN
VCCA
CFI
CFO
SFO
SFI
CARLPF
CAROSC
CKOSC
TEST
CSM
CLK
CLKIN
DATA
VEED
IMC
VCCD
QMC
AUDIO
A GND
X1102
D1103
1SV214
VCO-CAPAC

• V BOARD

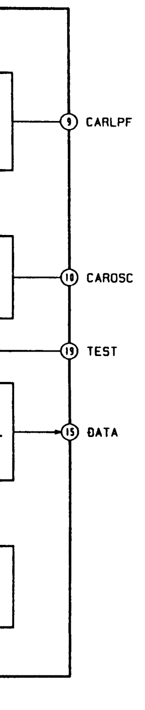
	KV-B2911K	OTHERS
IC01	SDA5248C2	SDA5248C1

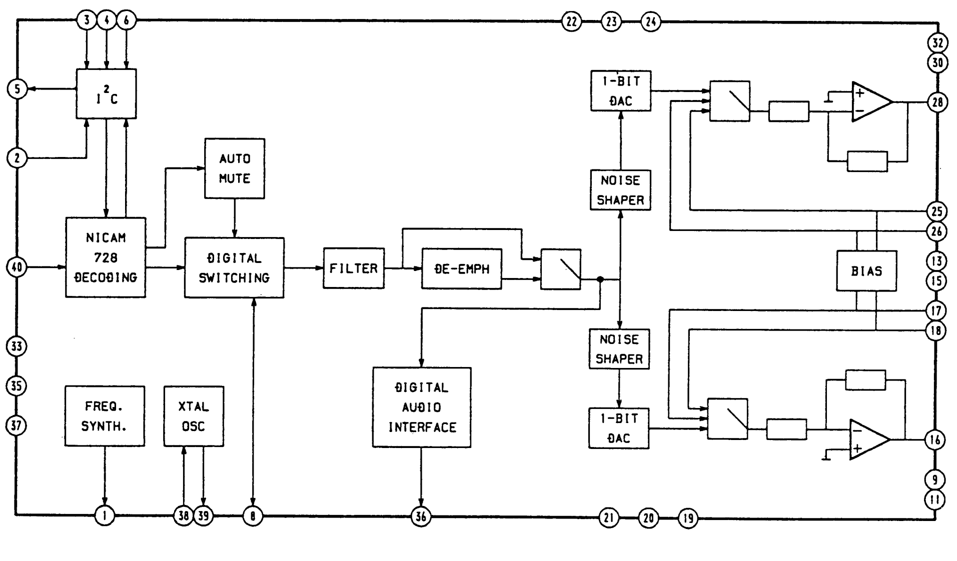
• A1 BOARD IC1101 TDA8732


VEEA
VCCA
CFO
SFO
SFI
CFI
QPSKIN
LIMITER
COSTAS LOOP
QUADRATURE
DEMODULATOR
X/2
DIV/2
CARRIER
PHASE
RECOVERY
CARRIER
OSCILLATOR
IMC
QMC
CLKLPF
BIT-RATE
CLOCK
RECOVERY
DECODER AND
PARALLEL TO SERIAL
CONVERTER
CLKOSC
CLOCK
OSCILLATOR
TIMING
GENERATOR
CLOCK
ROCESSING
VEED
VCCD
CSM
CLK
CLKIN


19
20
21
22
23
24
25
26
27
28
29
5V
12V
AUDIO
A-GND
D-GND
ANA-5V
DGI-5V
IC1102
SAA7282P
NICAM-DECODER
PCLK
RESET
SCL
SDA
PORT2
ADSEL
MUTE
VDDAR
VSSAR
VRO
VRC
OPR
EXTR
FMR
INTR
CDR
DATA
XOUT
XIN
VSS
DDBM
VDD
TEST
VDDAL
VSSAL
OPL
EXTL
FML
INTL
DDL
VDAC
VREF
X1101
8.192MHz
JR1102
JR1103
D1101
BAP202K
D1102
1SV217
VCO-CAPACITOR
Q1104
2SC2412K
BUFFER-R
Q1105
2SC2412K
L-AUDIO-AMP
Q1106
2SC2412K
L-AUDIO-AMP
Q1107
2SC2412K
R-AUDIO-AMP
Q1108
2SC2412K
R-AUDIO-AMP
BP1101
BPF
SIF
FB1107
0.45UH
L AUDIO (NICAM)
R AUDIO (NICAM)
D1103
1SV214
VCO-CAPACITOR
A GND
D GND
A1
NICAM DECODER,
NICAM DEMODULATOR
B-SS4260<AEP>-A1.

• A1 BOARD IC1102 SAA7282P

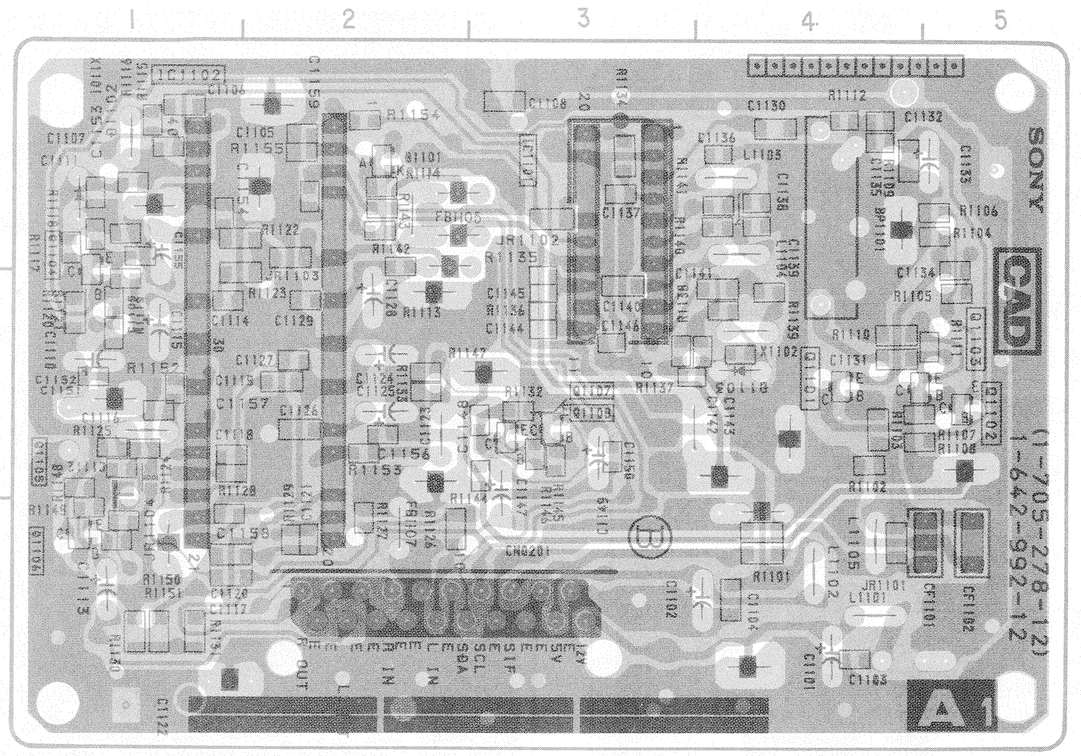

CARLPF
CAROSC
TEST
DATA


I²C
AUTO
MUTE
NICAM
728
DECODING
DIGITAL
SWITCHING
FILTER
DE-EMPH
1-BIT
DAC
NOISE
SHAPER
BIAS
FREQ.
SYNTH.
XTAL
OSC
DIGITAL
AUDIO
INTERFACE

• A1 BOARD (KV-B2512U/B2513E only)

	KV-B2513E	KV-B2512U
BP1101	5.850MHz	6.552MHz
C1159	–	47P : CHIP
CF1101	–	6.0MHz
CF1102	5.5MHz	–
JR1101	0 : CHIP	–
L1105	–	15 μ H
X1102	11.700MHz	13.104MHz

– A1 BOARD – (KV-B2512U/B2513E only)



1
2
3
4
5
A
B
C
SONY
CAD
1-705-278-12
1-642-992-12
A1

Note :

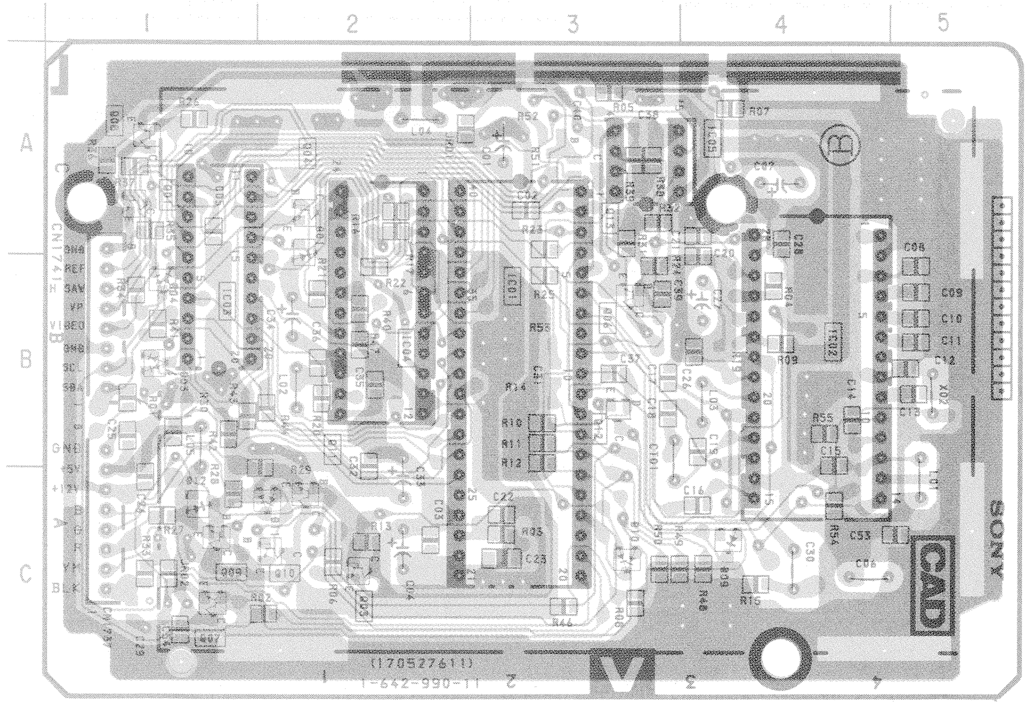
- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

IC	
IC1101	A – 3
IC1102	B – 2

TRANSISTOR	
Q1101	B – 4
Q1102	B – 5
Q1103	B – 5
Q1104	A – 1
Q1105	B – 1
Q1106	C – 1
Q1107	B – 3
Q1108	B – 3

DIODE	
D1101	A – 2
D1102	A – 1
D1103	B – 4

– V BOARD –

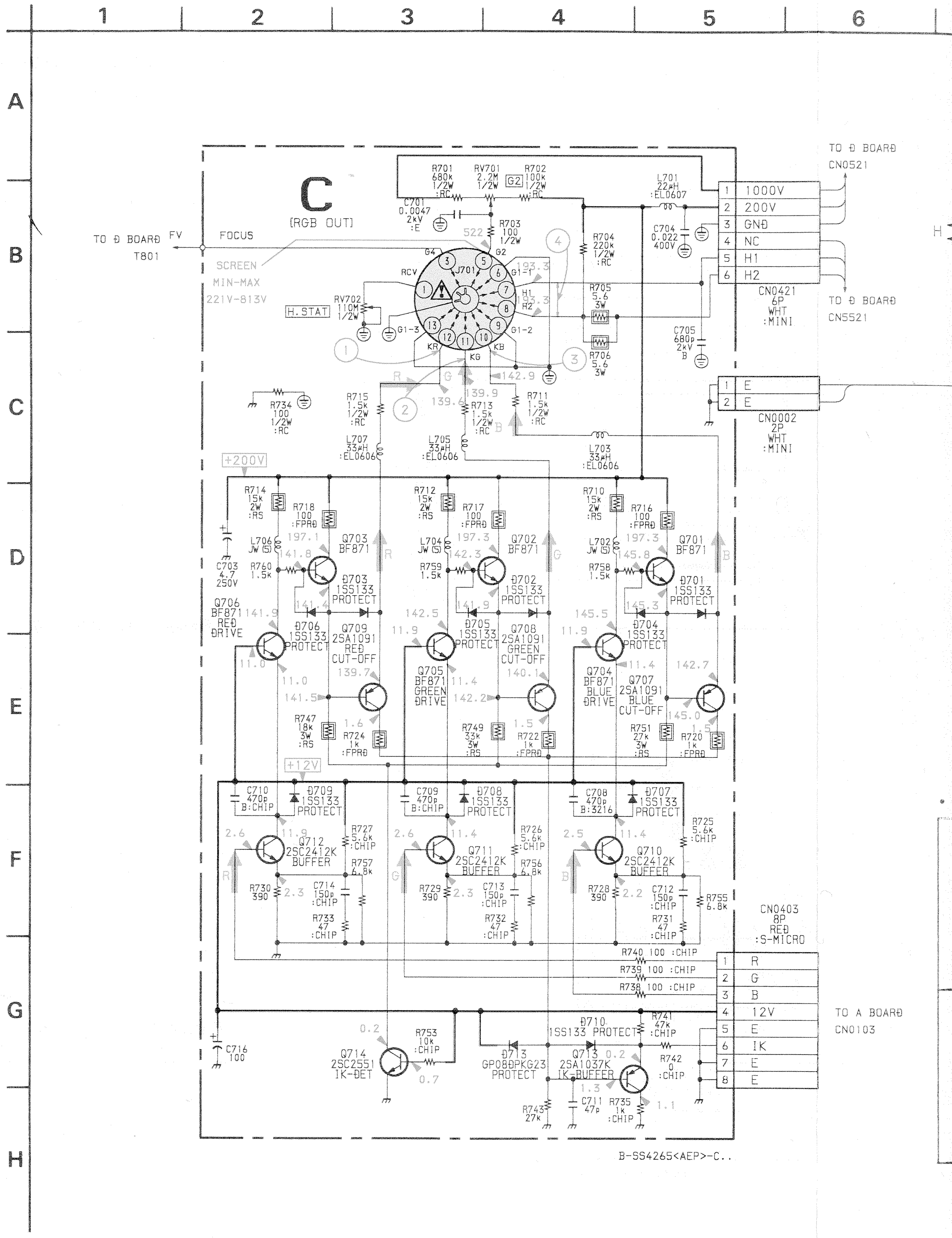


1
2
3
4
5
A
B
C
SONY
CAD
(170527611)
1-642-990-11
V

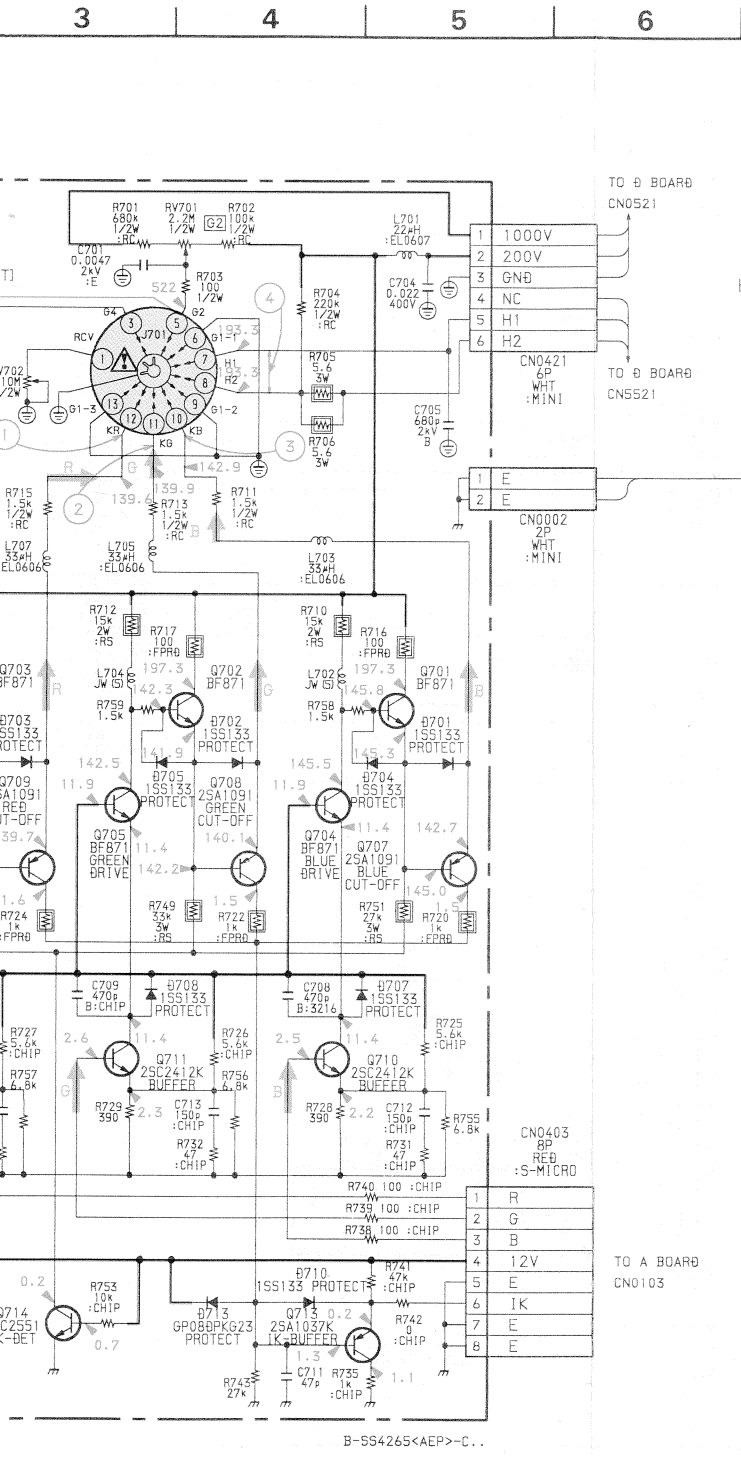
IC	
IC01	B – 3
IC02	B – 4
IC03	B – 1
IC04	B – 2
IC05	A – 4

TRANSISTOR	
Q01	A – 1
Q03	C – 2
Q04	B – 2
Q06	B – 3
Q07	C – 1
Q08	A – 1
Q09	C – 1
Q010	C – 2
Q011	C – 2
Q012	C – 3

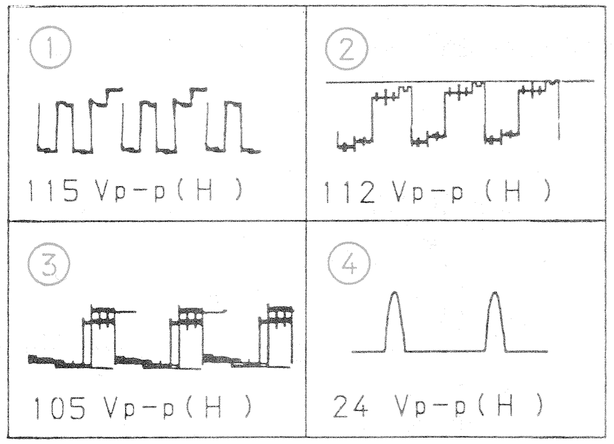
DIODE	
D01	B – 2
D03	B – 1
D04	B – 1
D09	C – 4
D010	C – 3
D011	C – 2
D012	C – 1



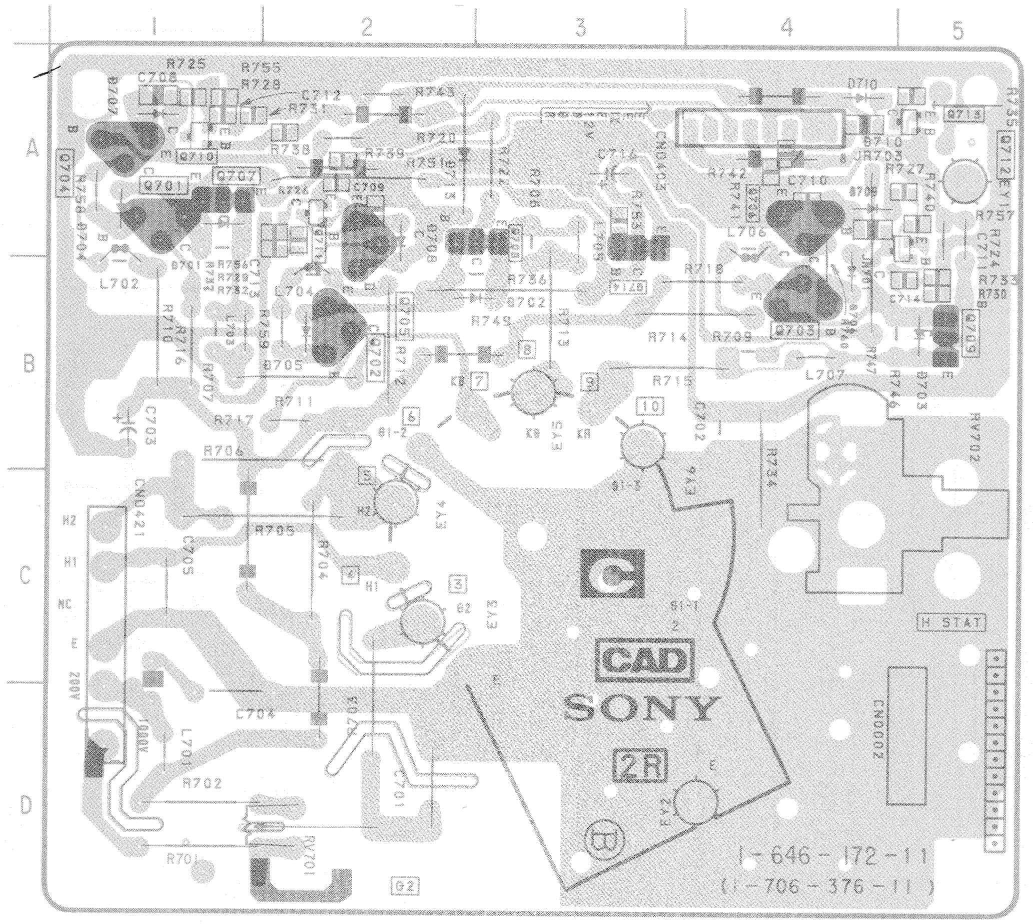
1
2
3
4
5
6
A
B
C
D
E
F
G
H
C
(RGB OUT)
TO D BOARD T801
FV
FOCUS
SCREEN MIN-MAX 221V-813V
H.STAT
RV702
J701
TO D BOARD CN0521
1000V
200V
GND
NC
H1
H2
CN0421 6P WHT :MINI
TO D BOARD CN5521
E
E
CN0002 2P WHT :MINI
+200V
+12V
Q703 BF871
Q702 BF871
Q701 BF871
D703 1SS133 PROTECT
D702 1SS133 PROTECT
D701 1SS133 PROTECT
Q706 BF871 RED DRIVE
Q705 BF871 GREEN DRIVE
Q704 BF871 BLUE DRIVE
Q709 2SA1091 RED CUT-OFF
Q708 2SA1091 GREEN CUT-OFF
Q707 2SA1091 BLUE CUT-OFF
Q712 2SC2412K BUFFER
Q711 2SC2412K BUFFER
Q710 2SC2412K BUFFER
D709 1SS133 PROTECT
D708 1SS133 PROTECT
D707 1SS133 PROTECT
Q714 2SC2551 IK-DET
D713 GP08DPKG23 PROTECT
Q713 2SA1037K IK-BUFFER
D710 1SS133 PROTECT
CN0403 8P RED :S-MICRO
R
G
B
12V
E
IK
E
E
TO A BOARD CN0103
B-SS4265<AEP>-C..


3
4
5
6
7
8
9
10
TO Ð BOARD CN0521
TO Ð BOARD CN5521
V901
A59JWC61X
PICTURE TUBE
KG KB G2
CV KR G1 G4 HV
TO Ð BOARD T801 HV
CN0421 6P WHT :MINI
CN0002 2P WHT :MINI
1000V
200V
GND
NC
H1
H2
Q701 BF871
Q702 BF871
Q703 BF871
Q704 BF871 BLUE DRIVE
Q705 BF871 GREEN DRIVE
Q707 2SA1091 BLUE CUT-OFF
Q708 2SA1091 GREEN CUT-OFF
Q709 2SA1091 RED CUT-OFF
Q710 2SC2412K BUFFER
Q711 2SC2412K BUFFER
Q713 2SA1037K IK BUFFER
Q714 2SC2551
D710 1SS133 PROTECT
D713 GP08BPKG23 PROTECT
CN0403 8P RED :S-MICRO
R
G
B
12V
E
IK
E
E
TO A BOARD CN0103
B-SS4265<AEP>-C..

• WAVEFORMS C BOARD



– C BOARD –

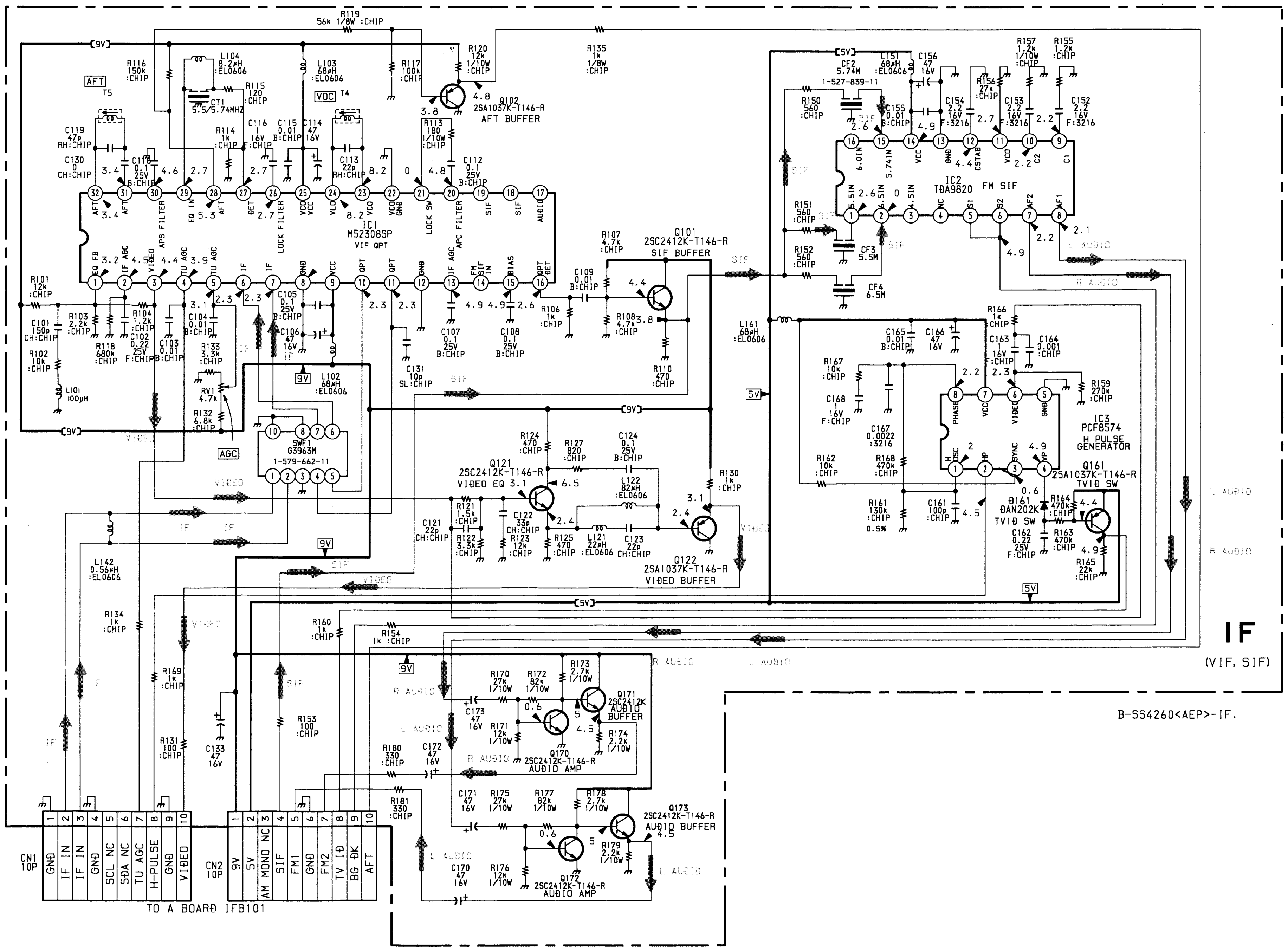

1
2
3
4
5
A
B
C
D
C
CAD
SONY
2R
H STAT
CN0002
CN0421
CN0403
1-646-172-11
(1-706-376-11)

TRANSISTOR	
Q701	A – 1
Q702	B – 2
Q703	B – 4
Q704	A – 1
Q705	B – 2
Q706	A – 4
Q707	A – 1
Q708	A – 3
Q709	B – 5
Q710	A – 1
Q711	A – 2
Q712	A – 5
Q713	A – 5
Q714	A – 3

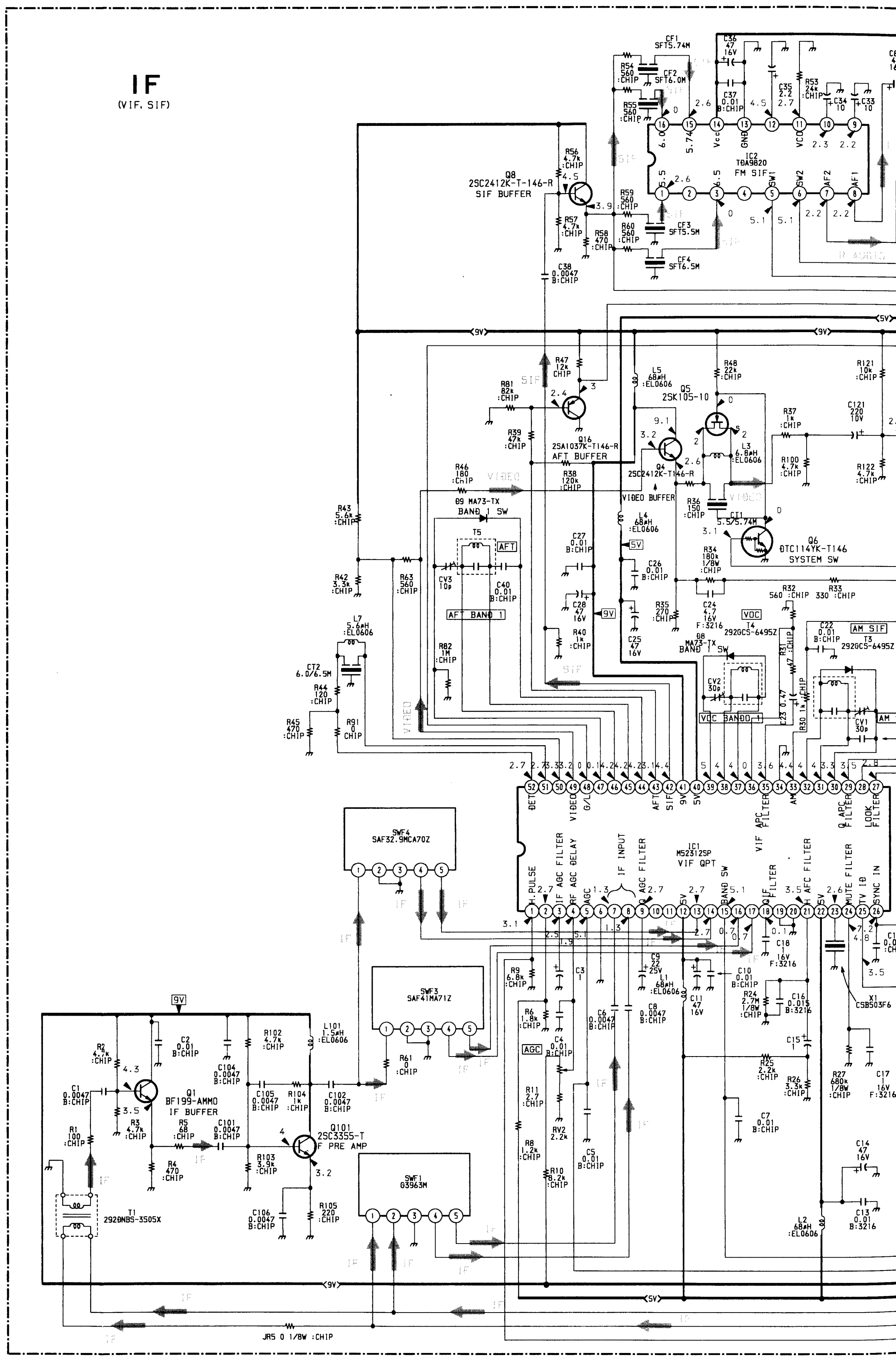
DIODE	
D701	A – 1
D702	B – 3
D703	B – 5
D704	A – 1
D705	B – 2
D706	B – 4
D707	A – 1
D708	A – 2
D709	A – 4
D710	A – 4
D713	A – 2

VARIABLE RESISTOR	
RV701	D – 2
RV702	C – 4

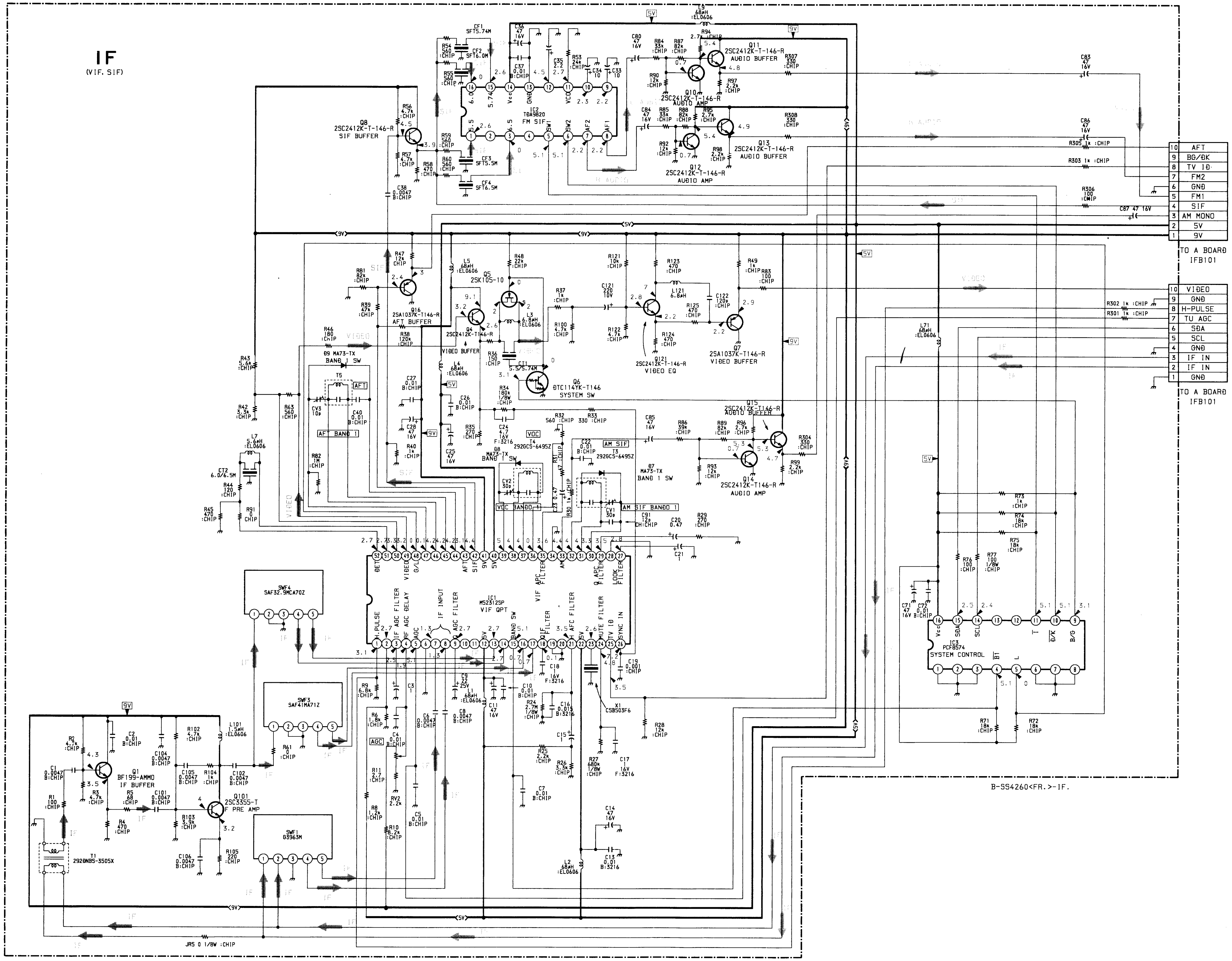
IFH389 (KV-B2511A/B2511D/B2513E/B2511K)


IC1
M52308SP
VIF QPT
IC2
TDA9820 FM SIF
IC3
PCF8574
H PULSE
GENERATOR
Q101
2SC2412K-T146-R
SIF BUFFER
Q102
2SA1037K-T146-R
AFT BUFFER
Q121
2SC2412K-T146-R
VIDEO EQ
Q122
2SA1037K-T146-R
VIDEO BUFFER
Q161
2SA1037K-T146-R
TV10 SW
D161
DAN202K
TV10 SW
Q170
2SC2412K-T146-R
AUDIO AMP
Q171
2SC2412K
AUDIO BUFFER
Q172
2SC2412K-T146-R
AUDIO AMP
Q173
2SC2412K-T146-R
AUDIO BUFFER
SWF1
G3963M
1-579-662-11
CF2
5.74M
1-527-839-11
CF3
5.5M
CF4
6.5M
IF
(VIF, SIF)
CN1
10P
CN2
10P
GND
IF IN
IF IN
GND
SCL NC
SDA NC
TU AGC
H-PULSE
GND
VIDEO
9V
5V
AM MONO NC
SIF
FM1
GND
FM2
TV 10
BG DK
AFT
TO A BOARD IFB101
B-SS4260<AEP>-IF.

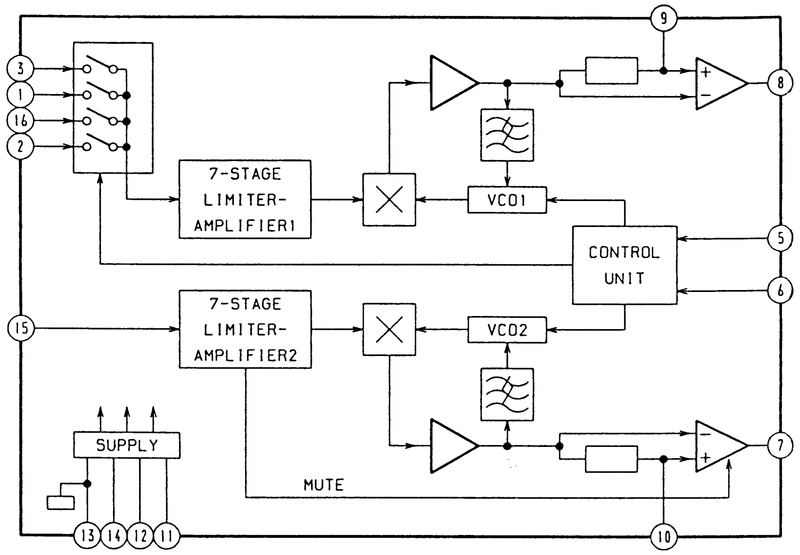
IFH389S (KV-B2511B only)


IF
(VIF, SIF)
IC1
M52312SP
VIF QPT
IC2
TDA9820
FM SIF
Q1
BF199-AMMO
IF BUFFER
Q101
2SC3355-T
IF PRE AMP
Q4
2SC2412K-T146-R
VIDEO BUFFER
Q5
2SK105-10
Q6
DTC114YK-T146
SYSTEM SW
Q8
2SC2412K-T-146-R
SIF BUFFER
Q16
2SA1037K-T146-R
AFT BUFFER
SWF1
G3963M
SWF3
SAF41MA71Z
SWF4
SAF32.9MCA70Z
T1
2920NBS-3505X
X1
CSB503F6
JR5 0 1/8W :CHIP

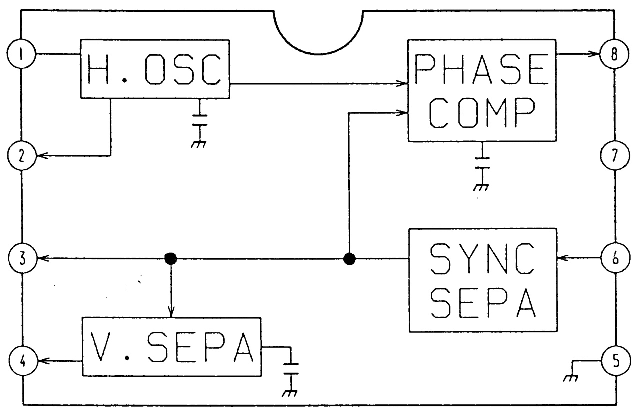
IFH389S (KV-B2511B only)


IF
(VIF, SIF)
IC1 M52312SP VIF QPT
IC2 TDA9820 FM SIF
IC3 PCF8574 SYSTEM CONTROL
Q1 BF199-AMMO IF BUFFER
Q101 2SC3355-T IF PRE AMP
Q4 2SC2412K-T146-R VIDEO BUFFER
Q5 2SK105-10
Q6 DTC114YK-T146 SYSTEM SW
Q7 2SA1037K-T146-R VIDEO BUFFER
Q8 2SC2412K-T-146-R SIF BUFFER
Q10 2SC2412K-T-146-R AUDIO AMP
Q11 2SC2412K-T-146-R AUDIO BUFFER
Q12 2SC2412K-T-146-R AUDIO AMP
Q13 2SC2412K-T-146-R AUDIO BUFFER
Q14 2SC2412K-T146-R AUDIO AMP
Q15 2SC2412K-T146-R AUDIO BUFFER
Q16 2SA1037K-T146-R AFT BUFFER
Q121 2SC2412K-T-146-R VIDEO EQ
D8 MA73-TX BAND 1 SW
D9 MA73-TX BAND 1 SW
D7 MA73-TX BAND 1 SW
SWF1 G3963M
SWF3 SAF41MA71Z
SWF4 SAF32.9MCA70Z
T1 2920NBS-3505X
X1 CSB503F6
CF1 SFT5.74M
CF2 SFT6.0M
CF3 SFT5.5M
CF4 SFT6.5M
AFT BAND 1
VOC BAND 1
AM SIF BAND 1
TO A BOARD IFB101
CN2 10P WHT
CN1 10P WHT
10 AFT
9 BG/DK
8 TV 10
7 FM2
6 GND
5 FM1
4 SIF
3 AM MONO
2 5V
1 9V
10 VIDEO
9 GND
8 H-PULSE
7 TU AGC
6 SDA
5 SCL
4 GND
3 IF IN
2 IF IN
1 GND
5V
9V
B-SS4260<FR.>-IF.

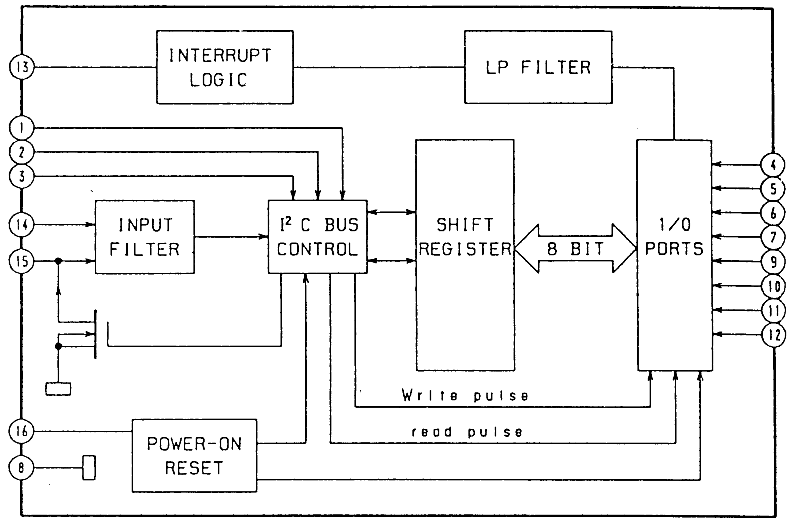
• IF BOARD IC2 TDA9820 (KV-B2511A/B2511D/B2513E/B2511K)

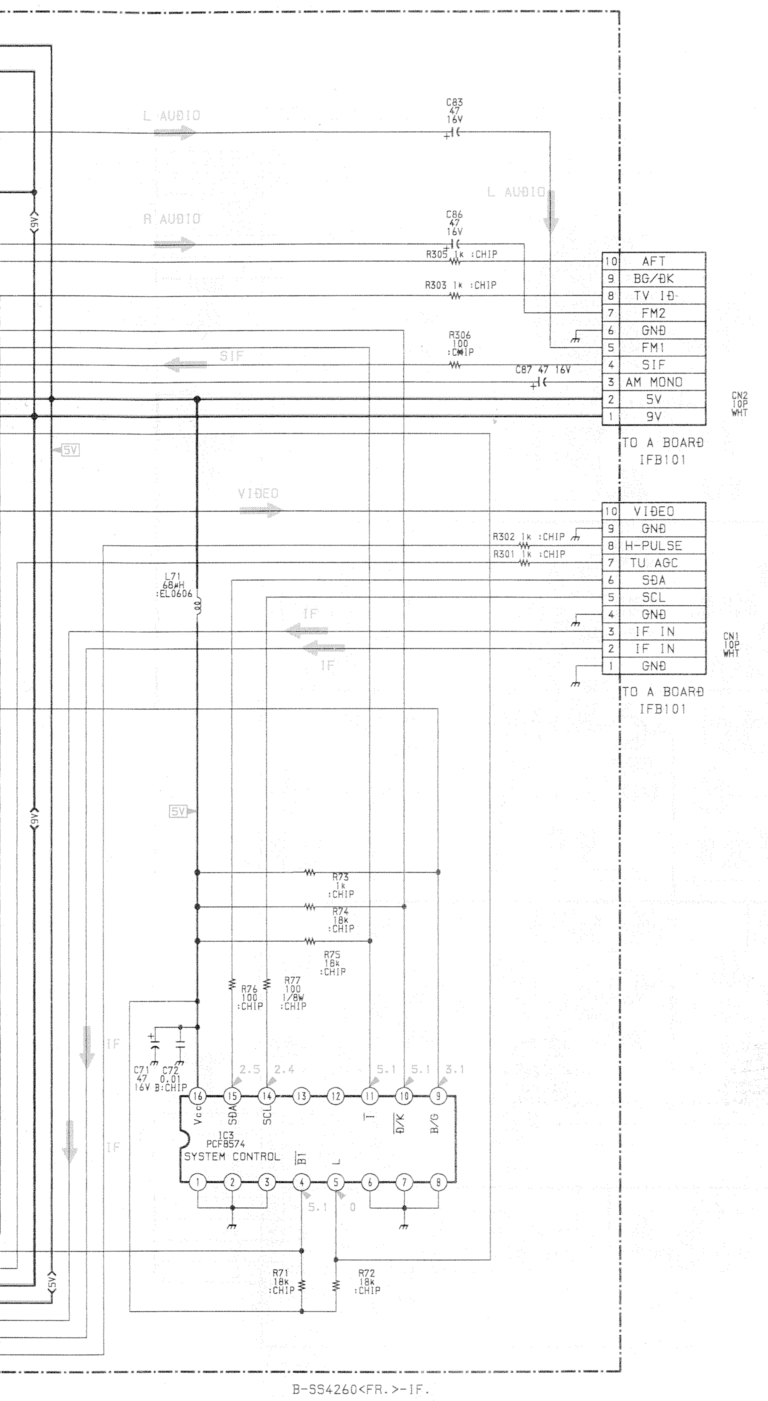

7-STAGE LIMITER-AMPLIFIER1
7-STAGE LIMITER-AMPLIFIER2
VCO1
VCO2
CONTROL UNIT
SUPPLY
MUTE
1
2
3
5
6
7
8
9
10
11
12
13
14
15
16

• IF BOARD IC3 BA7046 (KV-B2511A/B2511D/B2513E/B2511K)

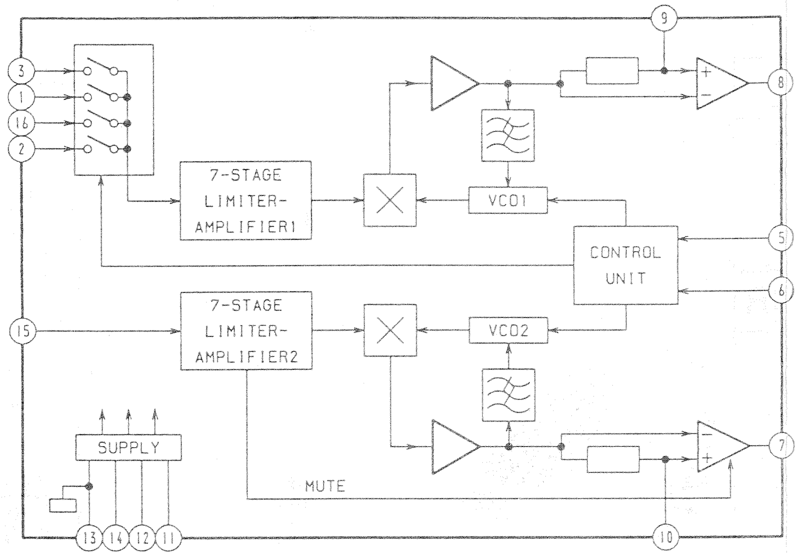

H.OSC
PHASE COMP
SYNC SEPA
V.SEPA
1
2
3
4
5
6
7
8

• IF BOARD IC3 PCF8574 (KV-B2511B only)

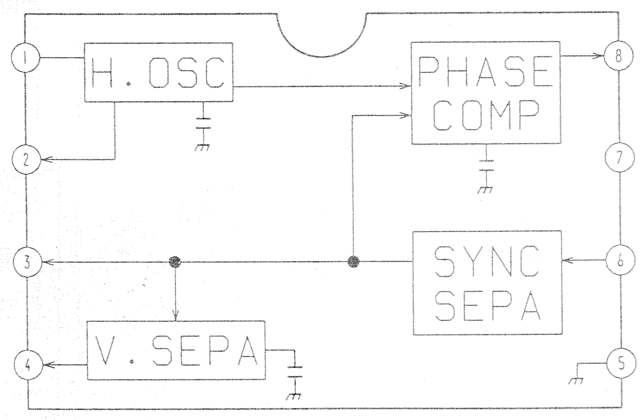

INTERRUPT LOGIC
LP FILTER
INPUT FILTER
I² C BUS CONTROL
SHIFT REGISTER
8 BIT
I/O PORTS
POWER-ON RESET
Write pulse
read pulse
1
2
3
4
5
6
7
9
10
11
12
13
14
15
16
8


L AUDIO
R AUDIO
C83 47 16V
C86 47 16V
R305 1k :CHIP
R303 1k :CHIP
R306 100 :CHIP
C87 47 16V
SIF
VIDEO
IF
5V
10 AFT
9 BG/DK
8 TV ID
7 FM2
6 GND
5 FM1
4 SIF
3 AM MONO
2 5V
1 9V
TO A BOARD IFB101
CN2 10P WHT
R302 1k :CHIP
R301 1k :CHIP
10 VIDEO
9 GND
8 H-PULSE
7 TU AGC
6 SDA
5 SCL
4 GND
3 IF IN
2 IF IN
1 GND
TO A BOARD IFB101
CN1 10P WHT
L71 68μH :EL0606
R73 1k :CHIP
R74 18k :CHIP
R75 18k :CHIP
R76 100 :CHIP
R77 100 1/8W :CHIP
C71 47 16V
C72 0.01 B:CHIP
IC3 PCF8574 SYSTEM CONTROL
R71 18k :CHIP
R72 18k :CHIP
B-554260<FR.>-IF.

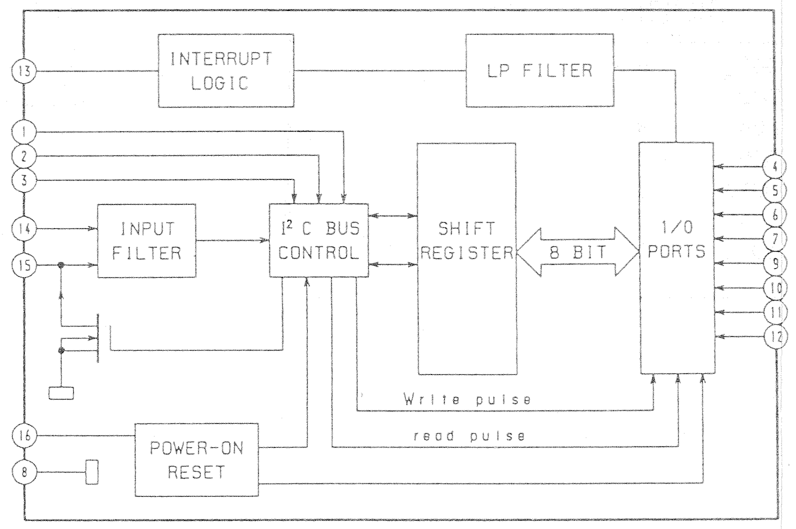
• **IF BOARD IC2 TDA9820 (KV-B2511A/B2511D/B2513E/B2511K)**


7-STAGE LIMITER-AMPLIFIER1
7-STAGE LIMITER-AMPLIFIER2
VCO1
VCO2
CONTROL UNIT
SUPPLY
MUTE
3
1
16
2
15
9
8
5
6
7
10
13
14
12
11

• **IF BOARD IC3 BA7046 (KV-B2511A/B2511D/B2513E/B2511K)**

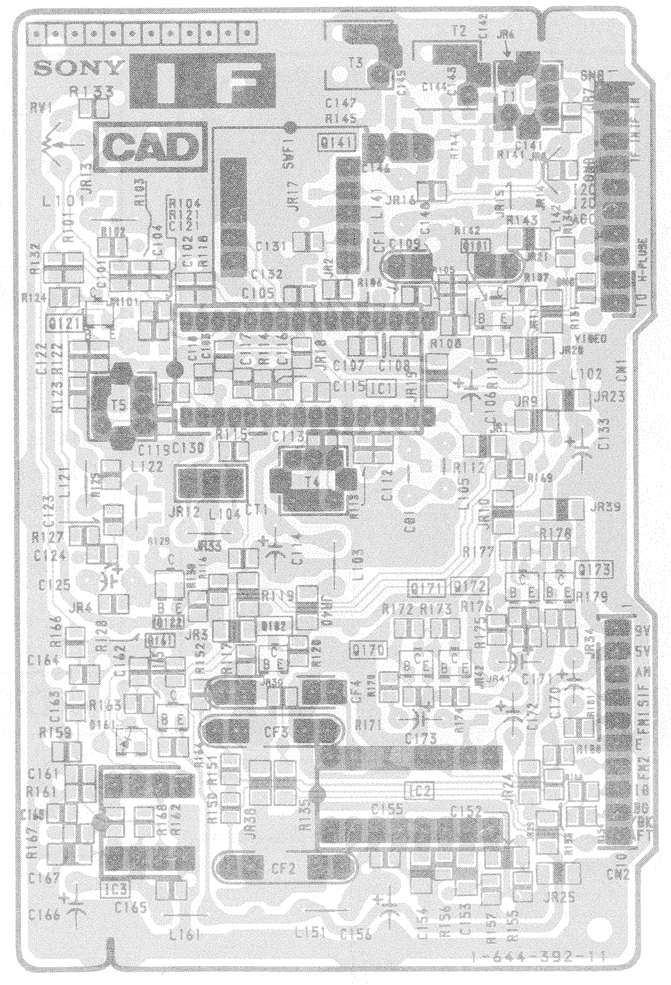

H.OSC
PHASE COMP
SYNC SEPA
V.SEPA
1
2
3
4
5
6
7
8

• **IF BOARD IC3 PCF8574 (KV-B2511B only)**

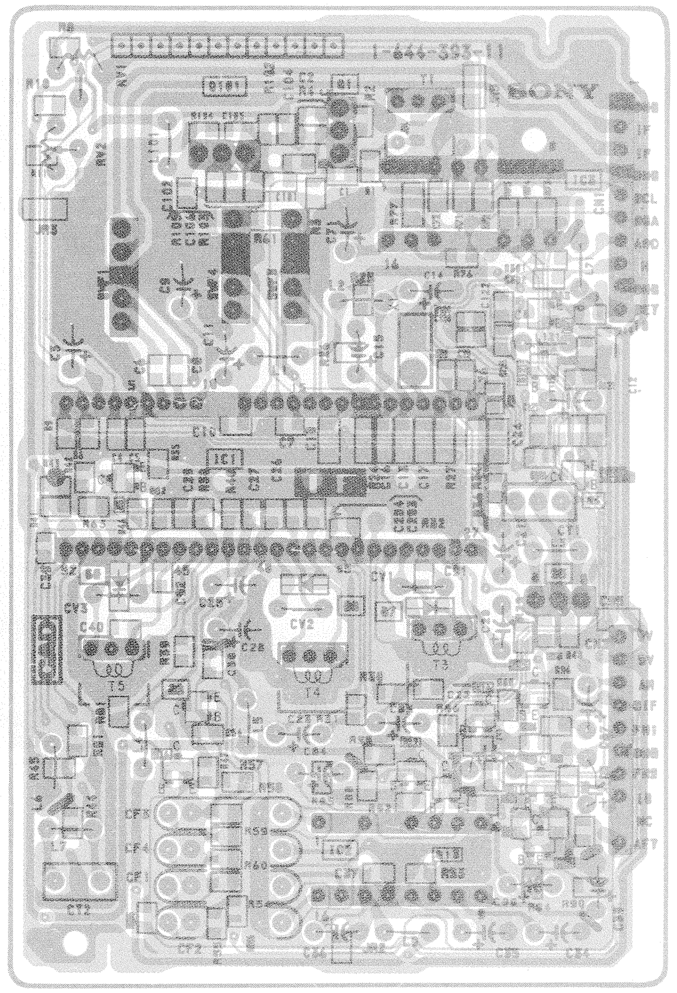

INTERRUPT LOGIC
LP FILTER
INPUT FILTER
I² C BUS CONTROL
SHIFT REGISTER
8 BIT
I/O PORTS
POWER-ON RESET
Write pulse
read pulse
13
1
2
3
14
15
16
8
4
5
6
7
9
10
11
12

I F [VIF, SIF]

– **IF BOARD** – (KV-B2511A/B2511D/B2513E/B2511K)

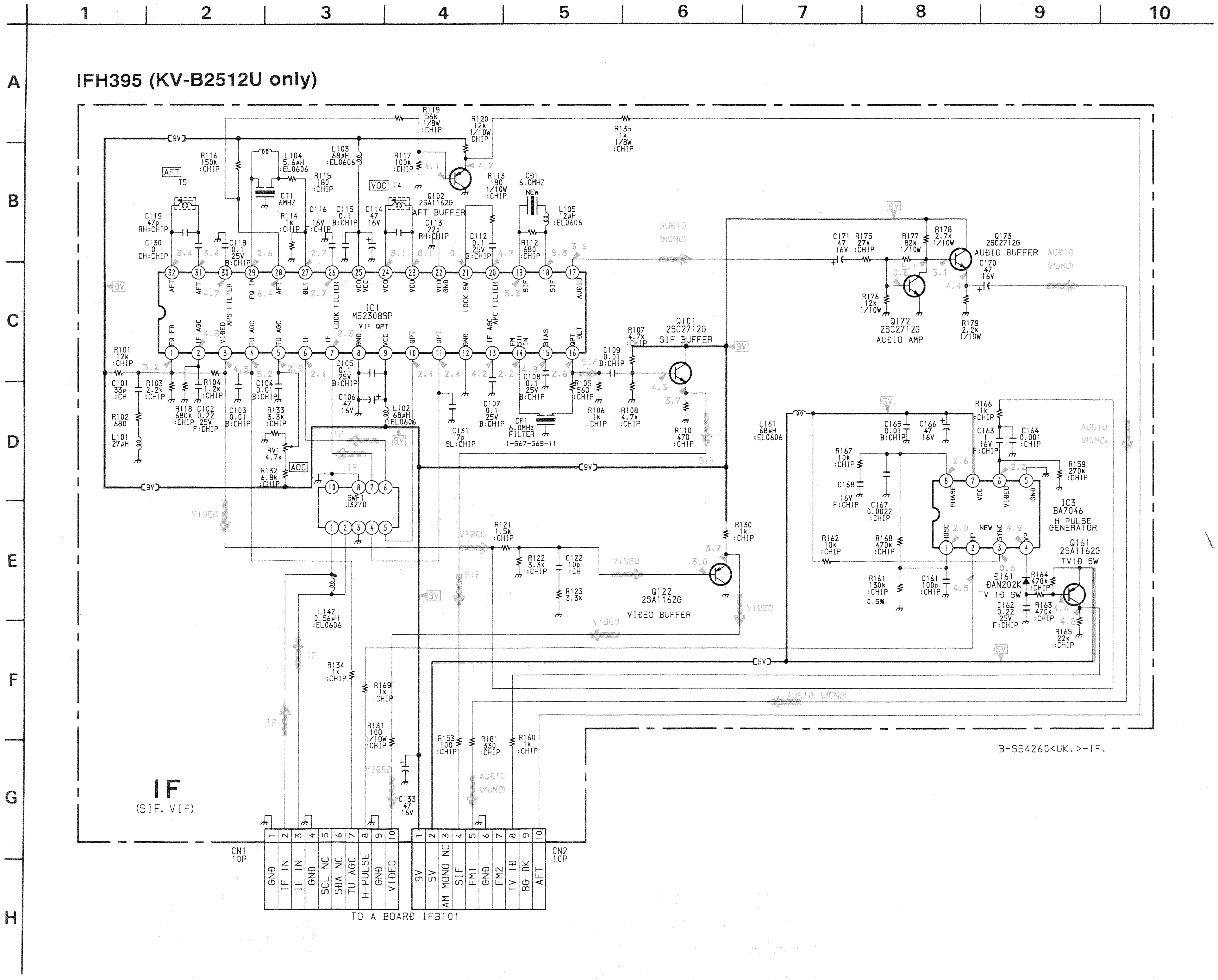

SONY
IF
CAD
1-644-392-11

– **IF BOARD** – (KV-B2511B only)


1-644-393-11
SONY

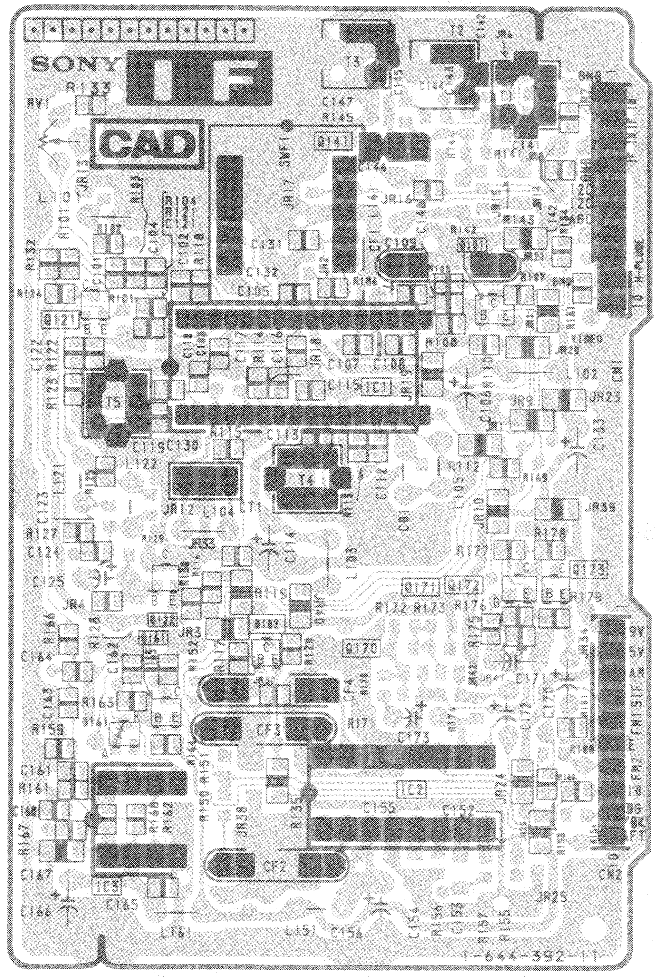
Note :
- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

IFH395 (KV-B2512U only)

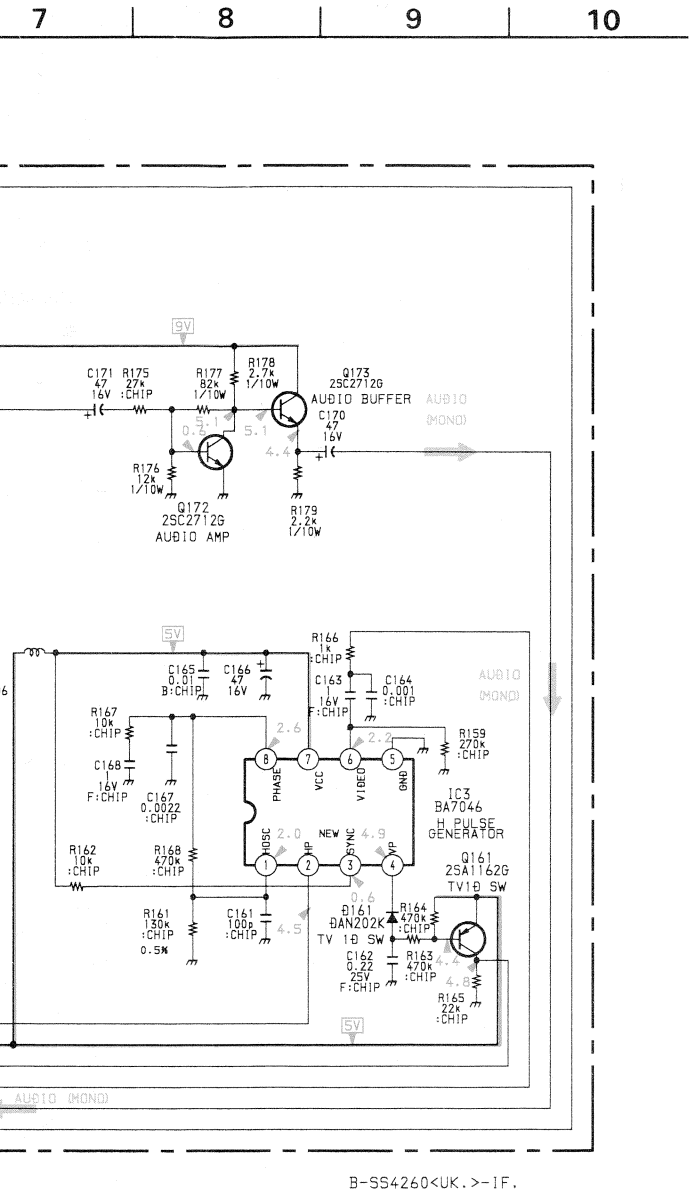

IF
(SIF, VIF)
IC1 M52308SP VIF OPT
Q101 2SC2712G SIF BUFFER
Q102 2SA1162G AFT BUFFER
Q122 2SA1162G VIDEO BUFFER
Q172 2SC2712G AUDIO AMP
Q173 2SC2712G AUDIO BUFFER
IC3 BA7046 H PULSE GENERATOR
Q161 2SA1162G TV1Ø SW
D161 DAN202K TV 1Ø SW
SWF1 J3270
CF1 6.0MHz FILTER 1-567-569-11
AFT T5
VCO T4
AGC
CN1 10P
GND
IF IN
IF IN
GND
SCL NC
SDA NC
TU AGC
H-PULSE
GND
VIDEO
CN2 10P
9V
5V
AM MONO NC
SIF
FM1
GND
FM2
TV 1Ø
BG DK
AFT
TO A BOARD IFB101
B-SS4260<UK.>-IF.
AUDIO (MONO)
VIDEO
SIF
9V
5V

I F [VIF, SIF]

– IF BOARD – (KV-B2512U only)


SONY
IF
CAD
1-644-392-11
CN1
CN2
IC1
IC2
IC3
T4
T5
CF2
CF3

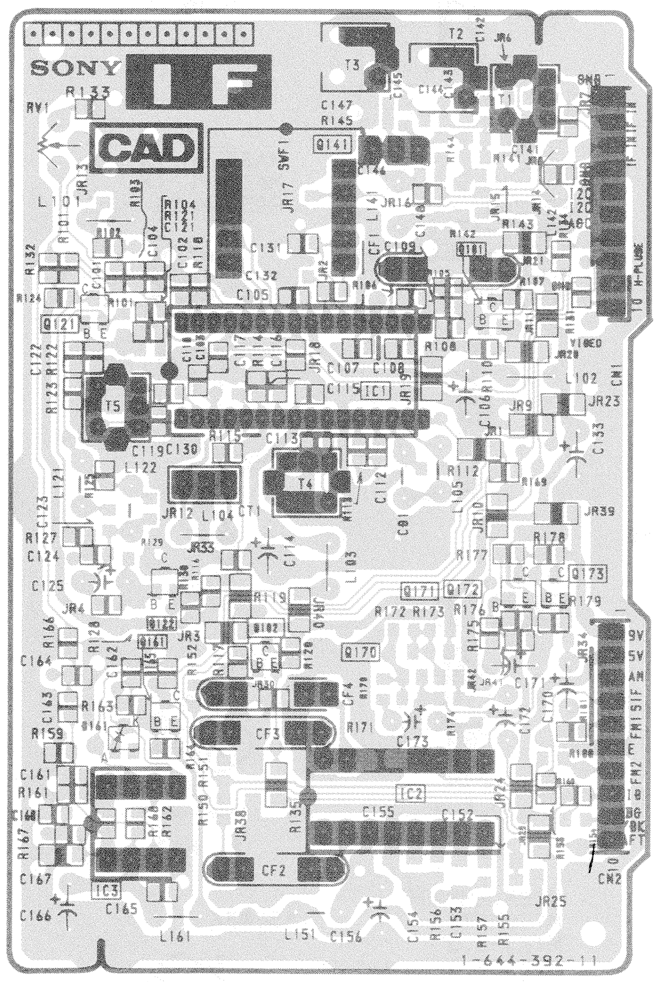
5-5. SCHEMATIC DIAGRAM OF TUNER
A BOARD TU101 UV916H



7
8
9
10
Q173 2SC2712G AUDIO BUFFER
Q172 2SC2712G AUDIO AMP
IC3 BA7046 H PULSE GENERATOR
Q161 2SA1162G TV1Ø SW
D161 DAN202K
AUDIO (MONO)
B-SS4260<UK.>-IF.

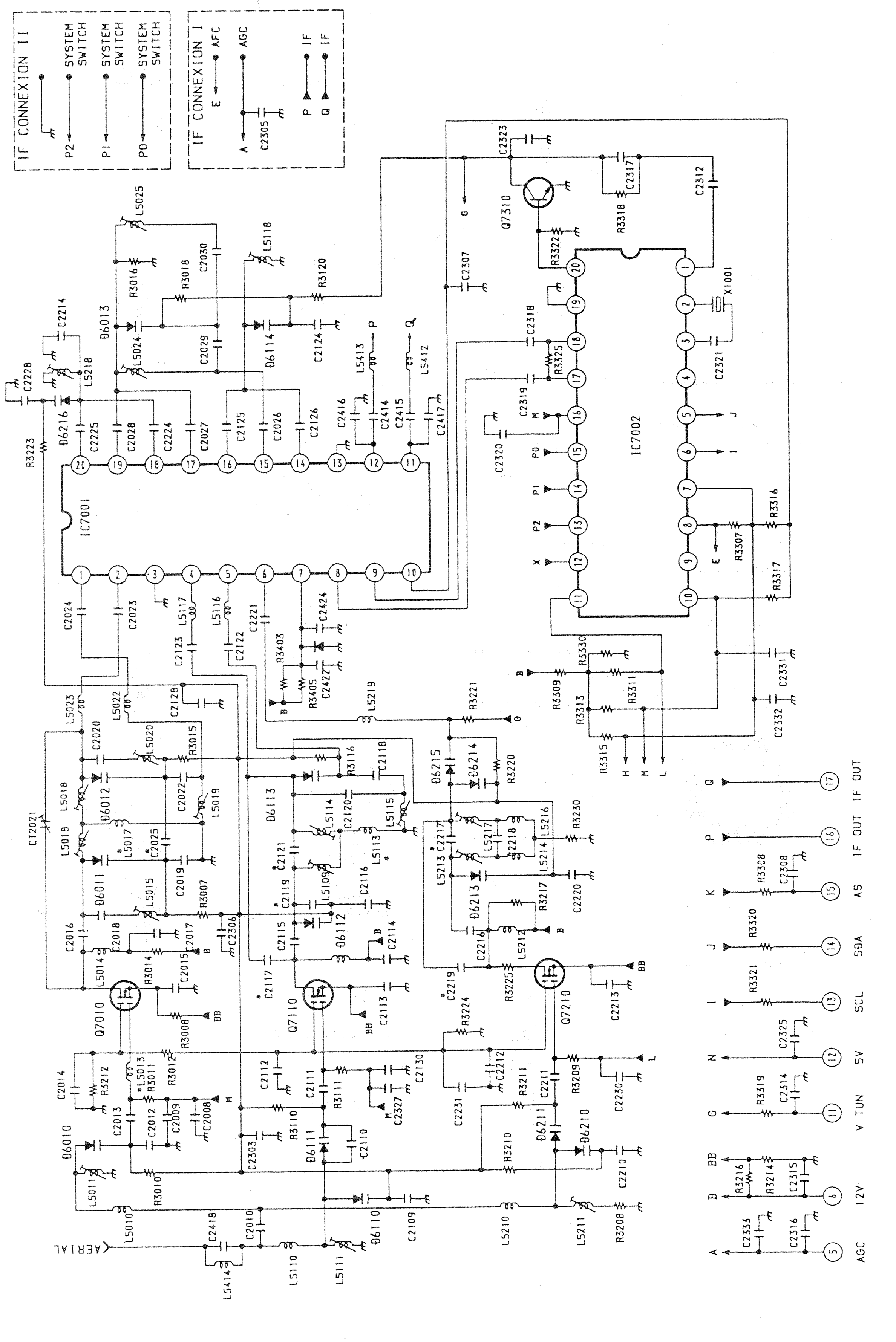
I F [VIF, SIF]

– IF BOARD – (KV-B2512U only)



SONY
IF
CAD
1-644-392-11

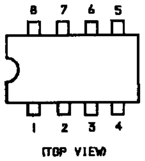
5-5. SCHEMATIC DIAGRAM OF TUNER A BOARD TU101 UV916H



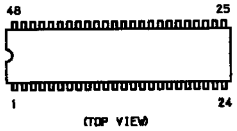
IF CONNEXION II
IF CONNEXION I
SYSTEM SWITCH
AFC
AGC
IF
IC7001
IC7002
Q7010
Q7110
Q7210
Q7310
X1001
AERIAL
AGC
12V
V TUN
5V
SCL
SDA
AS
IF OUT
IF OUT

5-6. SEMICONDUCTORS

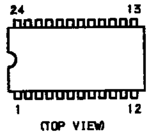
BA7046
LM358D
LM393P
TDA2822-M
TDA4605-3
TEA2114
X24C16P


8 7 6 5
1 2 3 4
(TOP VIEW)

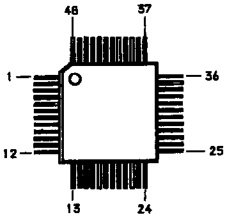
CXA1545AS
CXA1587S


48
25
1
24
(TOP VIEW)

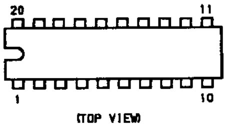
CXD1050A-15P
TDA9145/N1


24
13
1
12
(TOP VIEW)

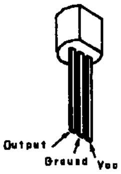
CXD2018Q


48
37
1
36
12
25
13
24

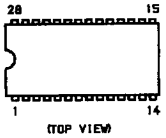
MCM514256AP80
TDA8732


20
11
1
10
(TOP VIEW)

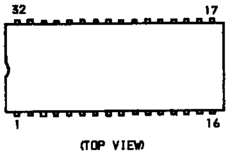
MC78L05ACPRP
MC78L12ACPRP


Output
Ground
Vcc

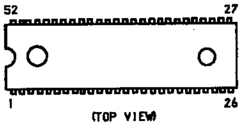
M27C512-20B1-AE27
SDA5231-2
TDA6612
TDA6622


28
15
1
14
(TOP VIEW)

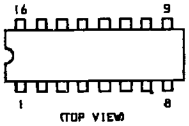
M52308SP


32
17
1
16
(TOP VIEW)

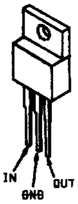
M52312SP


52
27
1
26
(TOP VIEW)

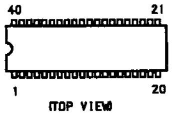
PCF8574
TDA9820


16
9
1
8
(TOP VIEW)

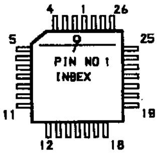
RC7809FA



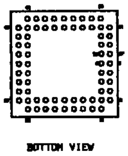
SAA7282P
SDA5248C1


40
21
1
20
(TOP VIEW)

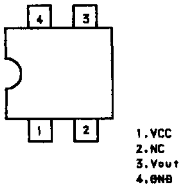
SBX1610-11


4
1
26
5
25
PIN NO 1
INDEX
11
19
12
18

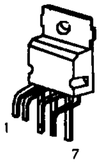
SDA30C162


BOTTOM VIEW

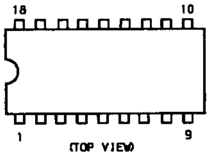
SFH617G-1


4
3
1
2
1.VCC
2.NC
3.Vout
4.GND

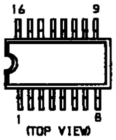
TDA2052
TDA8138A
TDA8179S



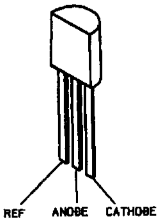
TDA2595/V9


18
10
1
9
(TOP VIEW)

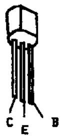
TDA4660V2


16
9
1
8
(TOP VIEW)

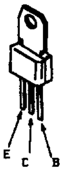
TL431CLP


REF
ANODE
CATHODE

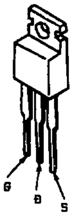
BF199-AMMO



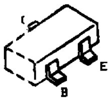
BF871



BUZ91A-E3155



DA116-T146
DTA124EK
DTA144EK
DTA144TK
DTC114EK
DTC124EK
DTC144EK
2SA1162-G
2SC1623-L5L6
2SC2413KQ



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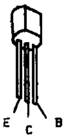
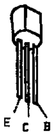
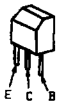
2SC3298B-Y



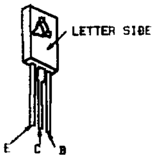
2SA733K
2SA1091-O
2SC2551-O



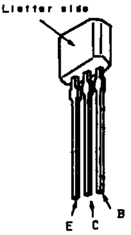
2SB734-34
2SD774-34



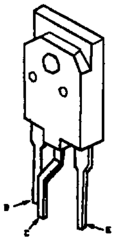
2SB772-Q
2SC2688-LK


LETTER SIDE
E
C
B

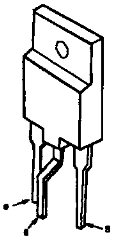
2SC2785-HFE


Lletter side
E
C
B

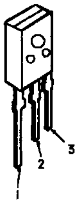
2SC4927-01



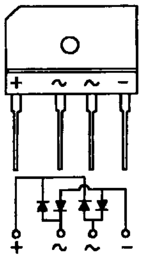
2SK1916-53-F50



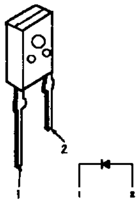
Đ10SC6M



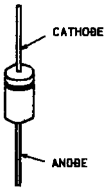
Đ4SB60L-F



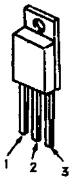
Đ5L60



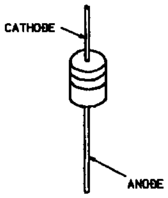
EGP20G
RGP02-17
RGP02-20EL-6394
RU-3AM
RU-30ALFS1
R2K


CATHODE
ANODE

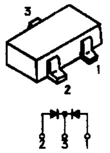
ESAB92-02
ESB85-009



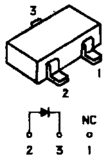
HZS3.6NB1TĐ
MTZJ-13C
MTZJ-3.3
MTZJ-9.1
MTZJ-30B
MTZJ-33C
MTZJ-39C
MTZJ-T-72-2.2A
RĐ12ES-B2
RĐ5.6ES-B1
RĐ5.6ES-B2
RĐ6.2ES-B2
RĐ7.5ES-B2
1SS119


CATHODE
ANODE

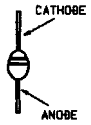
MA152WK



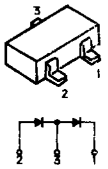
MA3039H-TX
MA3047L-TX
RĐ5.6M-B2



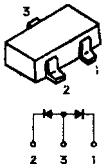
U05G


CATHODE
ANODE

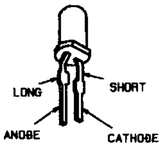
1SS226



1S2836

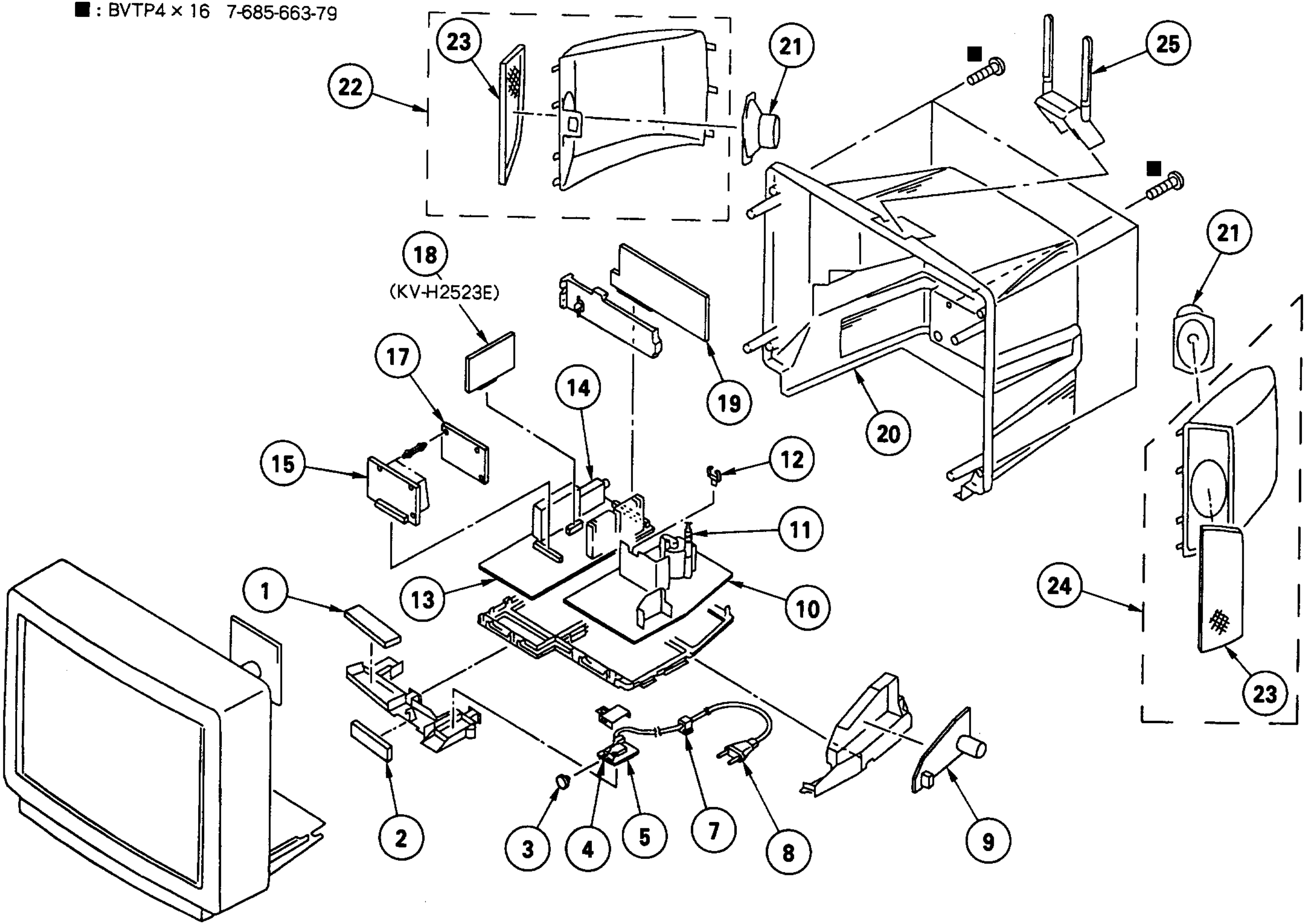


LĐ-201VR


LONG
SHORT
ANODE
CATHODE

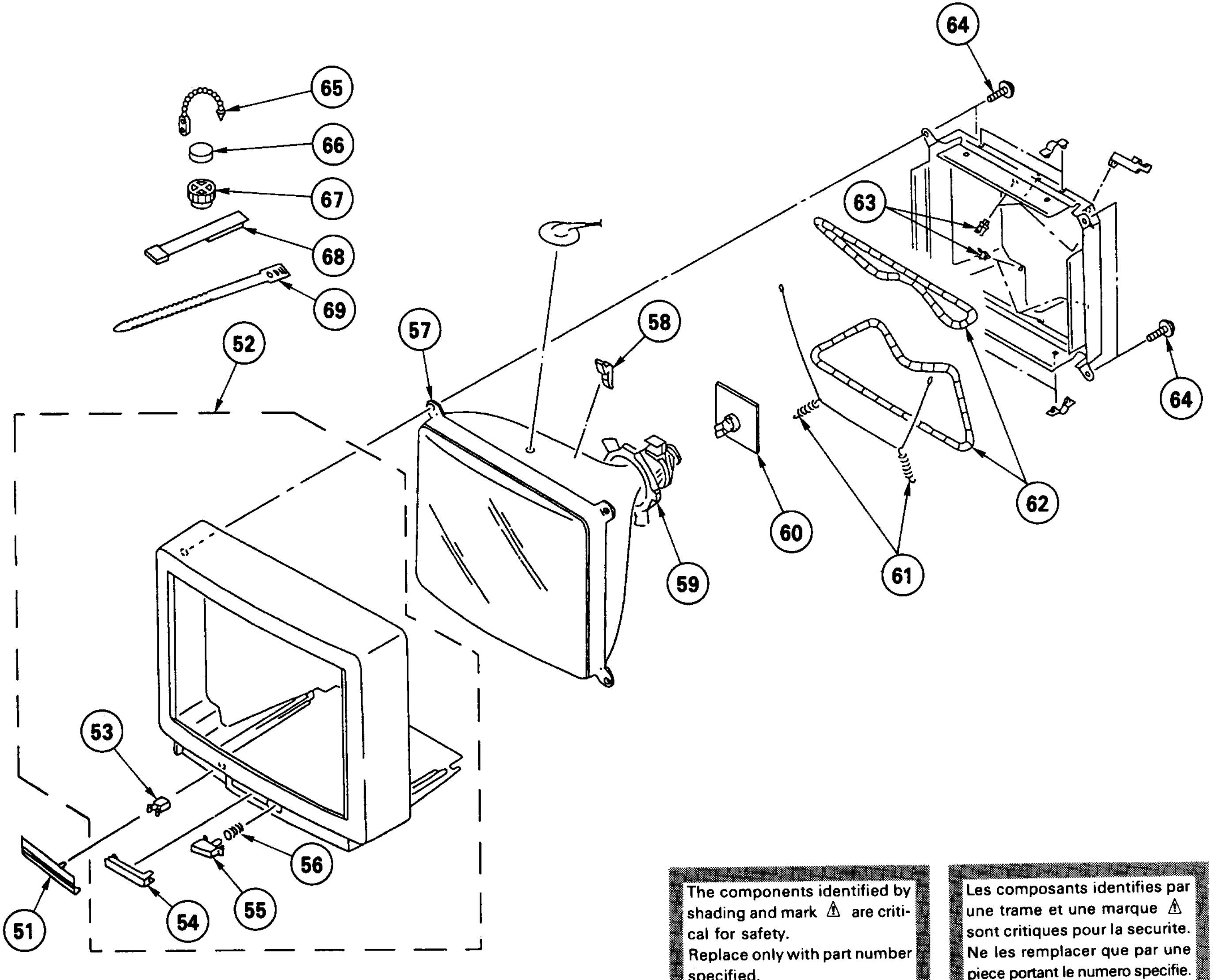
6-1. CHASSIS

■ : BVTP4 × 16 7-685-663-79



23
21
25
22
■
■
21
18
(KV-H2523E)
19
20
17
14
15
12
11
13
10
24
1
23
2
3
4
5
7
8
9

6-2. PICTURE TUBE

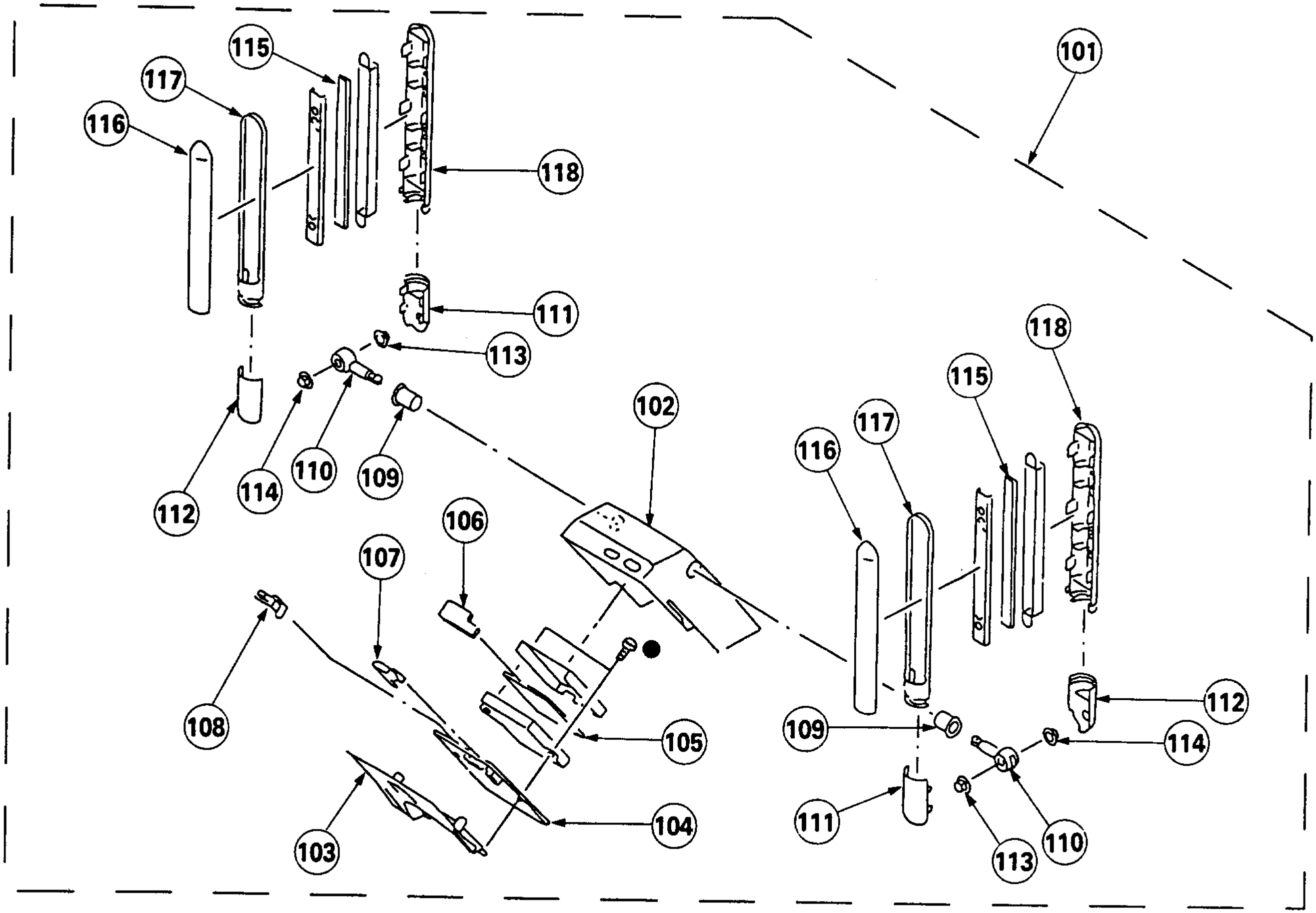

64
65
66
67
68
69
63
58
57
52
60
62
64
59
61
53
56
51
54
55

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

6-3. TRANSMITTER

● : BVTP3 × 12   7-685-648-79



101
115
117
116
118
111
113
102
112
114
110
109
106
107
108
105
103
104
118
115
117
116
112
109
114
111
113
110
●

ACCESSORY

MDR-

SPECIFICATIONS

General	
Modulation system	Frequency modulation
Carrier frequency	Right 2.8 MHz Left 2.3 MHz
Effective range	Up to approx. 7 m (23 ft.)
Frequency response	18 – 22,000 Hz
Distortion	Less than 1% at 1 kHz
Headphones MDR-IF310	
Power source	DC 3 V, 2 × R6 (size AA) battery
Weight	Approx. 170 g (6.0 oz.) incl. batteries

Design and specifications subject to change without notice.

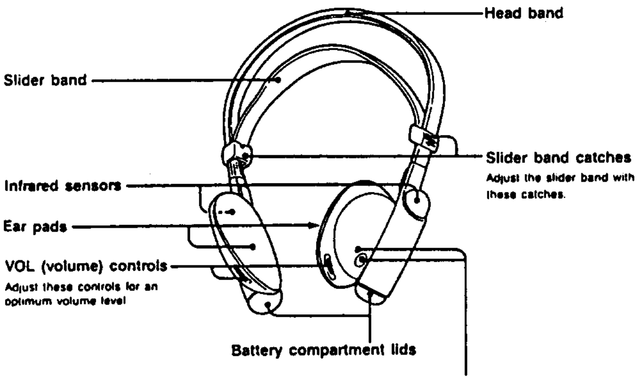
CORDLESS STEREO HEAD

SECTION 1
GENERAL

This section is extracted from instruction manual.

Parts Identification

Headphones


Head band
Slider band
Slider band catches
Infrared sensors
Ear pads
VOL (volume) controls
Battery compartment lids

Adjust the slider band with these catches.

Adjust these controls for an optimum volume level

POWER switch and indicator

Press the POWER switch. The indicator lights up. To turn off the power, press it again. When approximately 3 hours have elapsed without the unit being used, the POWER switch will be turned off automatically to avoid unnecessary battery wear.

Power Source of the Headphones

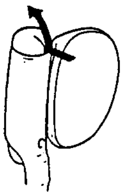
Use two R6 (size AA) batteries for the headphones. Be sure to use the same type of batteries for both right and left battery compartments.

When the batteries become weak
The POWER indicator dims, and a hissing noise increases. In such a case, replace both batteries.
The approximate battery life for continuous operation is as follows:

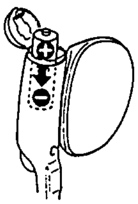
Sony alkaline battery AM3(N):	120 hours
Sony battery SUM-3(NS):	60 hours

Battery Installation

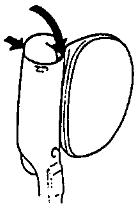
1 Open both battery compartments' lids.



2 Insert the batteries with the correct polarity.



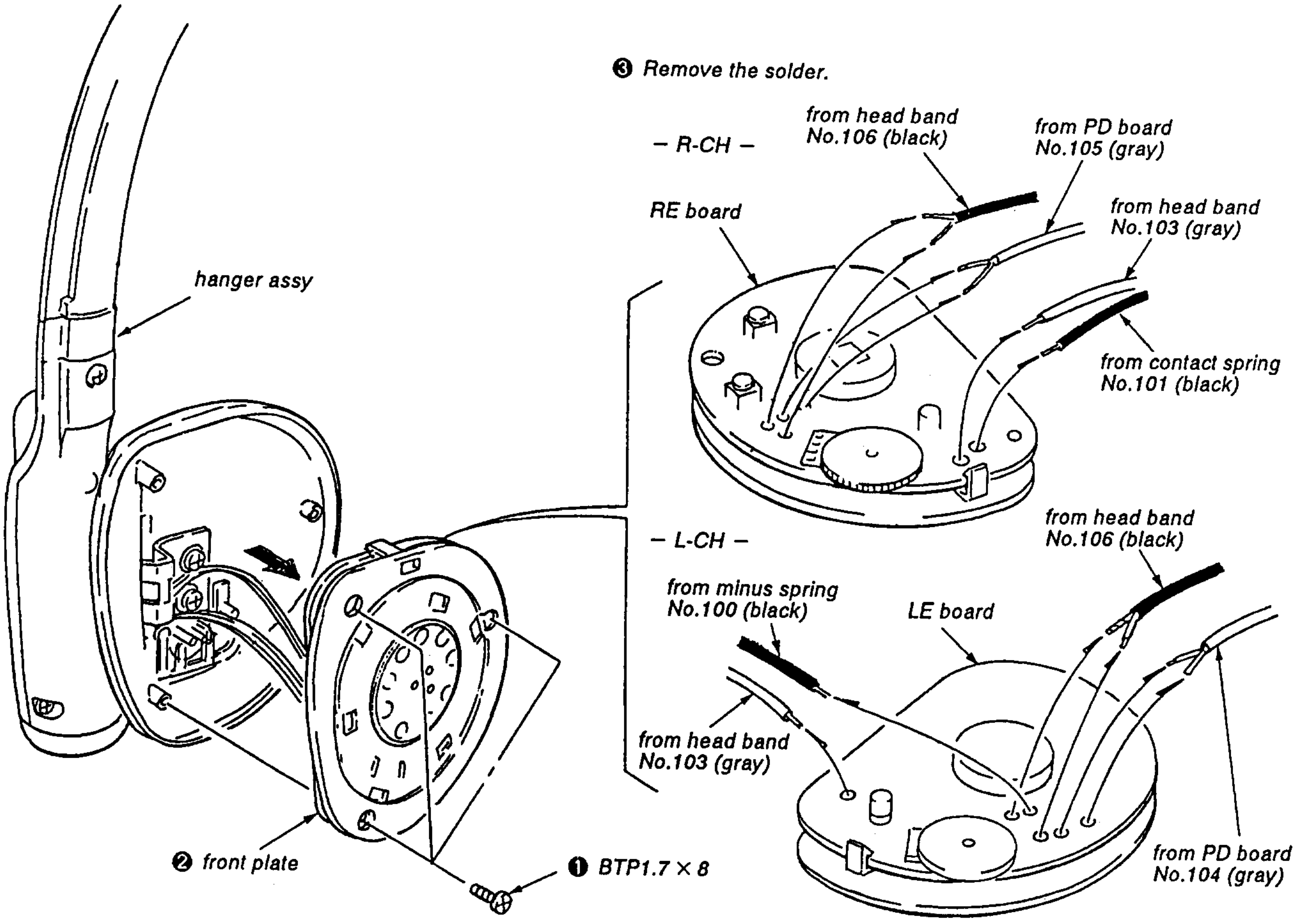
3 Close the battery compartments' lids.



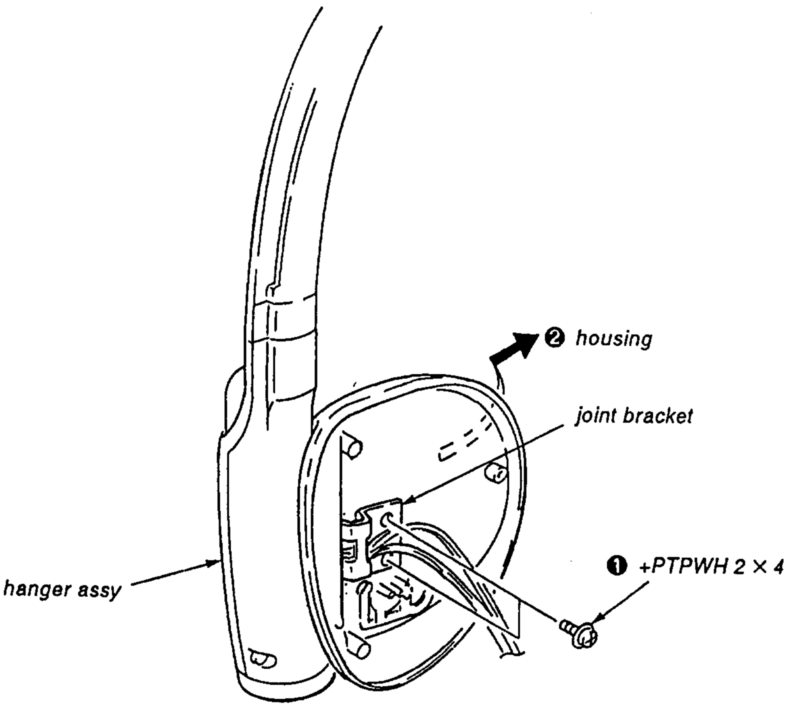
SECTION 2
DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

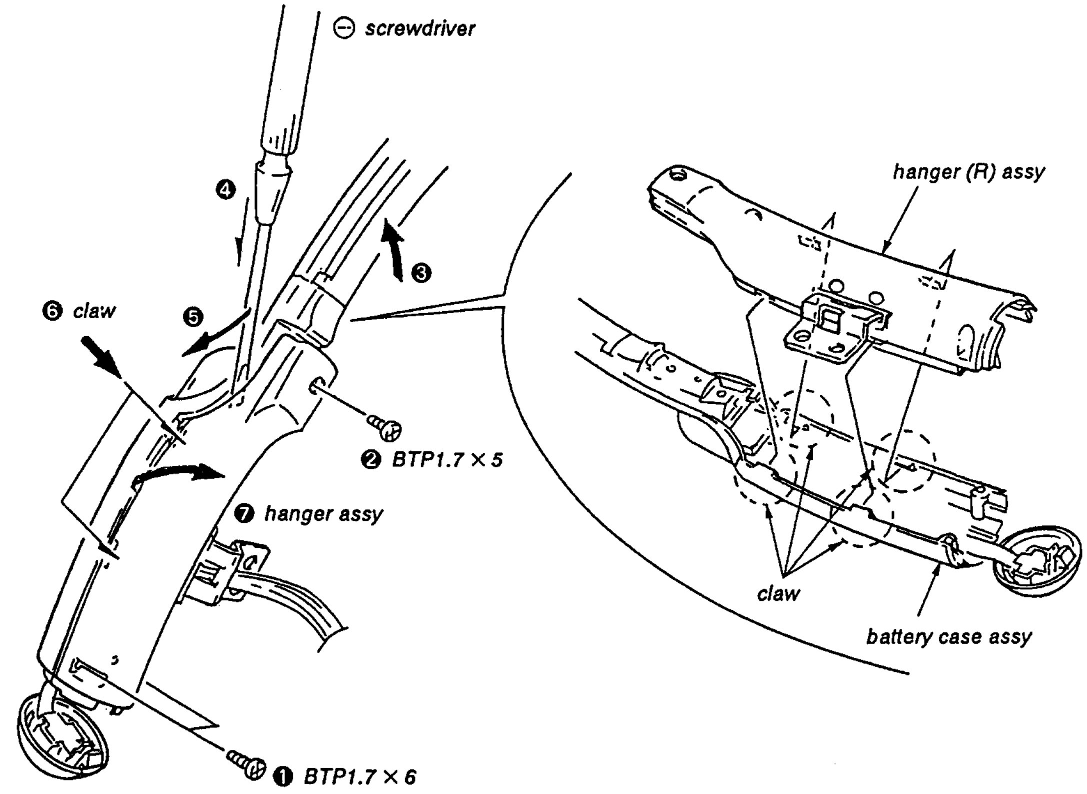
FRONT PLATE


❸ Remove the solder.
– R-CH –
from head band No.106 (black)
from PD board No.105 (gray)
RE board
from head band No.103 (gray)
hanger assy
from contact spring No.101 (black)
– L-CH –
from head band No.106 (black)
from minus spring No.100 (black)
LE board
from head band No.103 (gray)
❷ front plate
❶ BTP1.7 × 8
from PD board No.104 (gray)

HOUSING


❷ housing
joint bracket
❶ +PTPWH 2 × 4
hanger assy

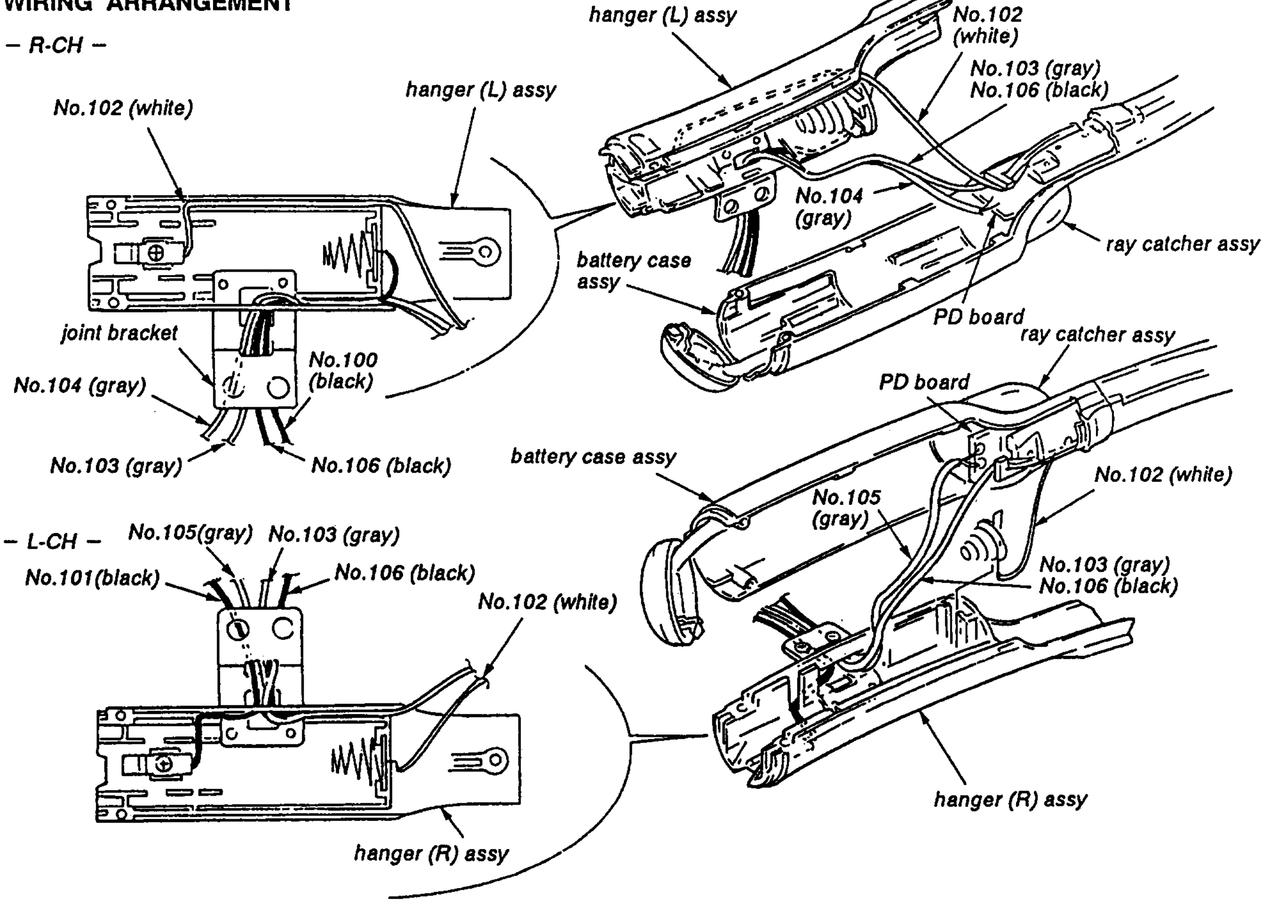
HANGER


⊖ screwdriver
④
③
⑥ claw
⑤
② BTP1.7 × 5
⑦ hanger assy
① BTP1.7 × 6
hanger (R) assy
claw
battery case assy

WIRING ARRANGEMENT

- R-CH -

- L-CH -


hanger (L) assy
No.102 (white)
hanger (L) assy
joint bracket
No.100 (black)
No.104 (gray)
No.103 (gray)
No.106 (black)
No.102 (white)
No.103 (gray)
No.106 (black)
No.104 (gray)
battery case assy
ray catcher assy
PD board
ray catcher assy
PD board
battery case assy
No.105 (gray)
No.102 (white)
No.103 (gray)
No.106 (black)
hanger (R) assy
No.105(gray)
No.103 (gray)
No.101(black)
No.106 (black)
No.102 (white)
hanger (R) assy

SECTION 3
ADJUSTMENTS

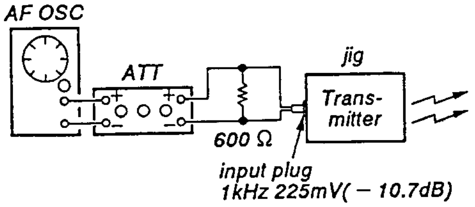
Note:

1. On adjusting, use the transmitter (TMR-IF5) as a jig.
2. L-ch adjustment should be completed before performing R-ch adjustment.

$\boxed{0\text{ dB} = 0.775\text{ V}}$

[Receiving Frequency Adjustment]

Preparation:



1. Feed a signal to jig (TMR-IF5) and connect a power supply.
2. Volume control: Optional position.
3. Short-circuit: Q3 (Q53) Base − Emitter (Ground)

Procedure:

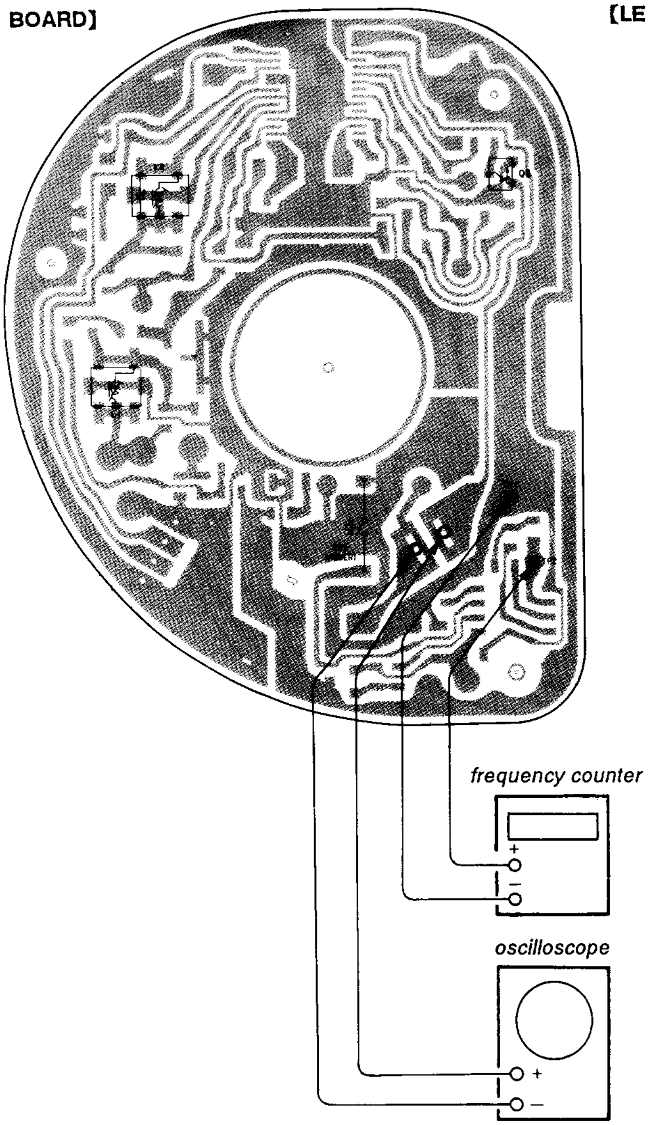
1. Connect a oscilloscope to SP1 or SP51.
2. Turn on the power switch on the headphones.
3. Adjust to make minute input level with changing the direction of the emitting position of jig so that the noise appears on the waveform.
4. Adjust with L5 (L-ch) or L55 (R-ch) to maximize the reading on the oscilloscope.
5. Adjust with L1 (L-ch) or L51 (R-ch) to maximize the reading on the oscilloscope.
6. Release the short-circuit position.
   Q3 (Q53) Base − Emitter (Ground)

[Timer Clock Frequency Check]

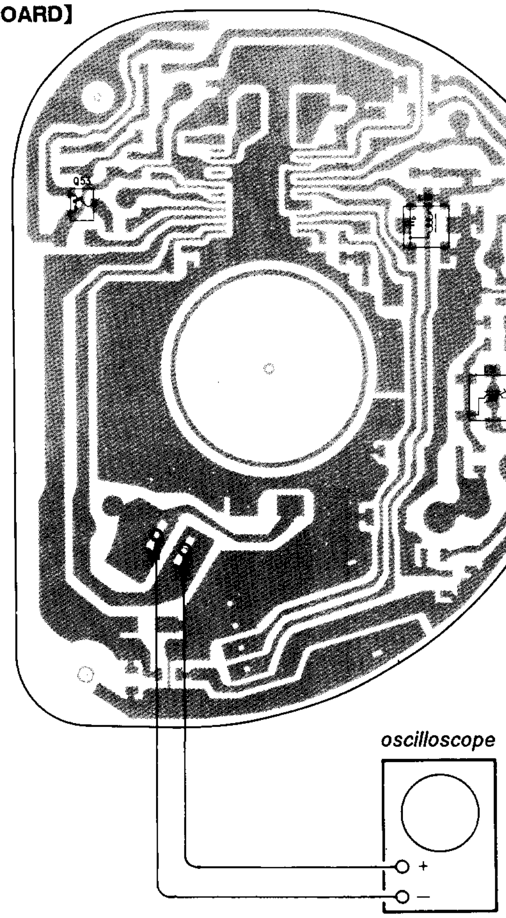
1. Connect a frequency counter to TP2 and TP (GND).
2. Check the reading on the frequency counter becomes to the checking value.
   Checking value: 300 Hz − 390 Hz.

[Connection and Adjustment Location]

[RE BOARD]



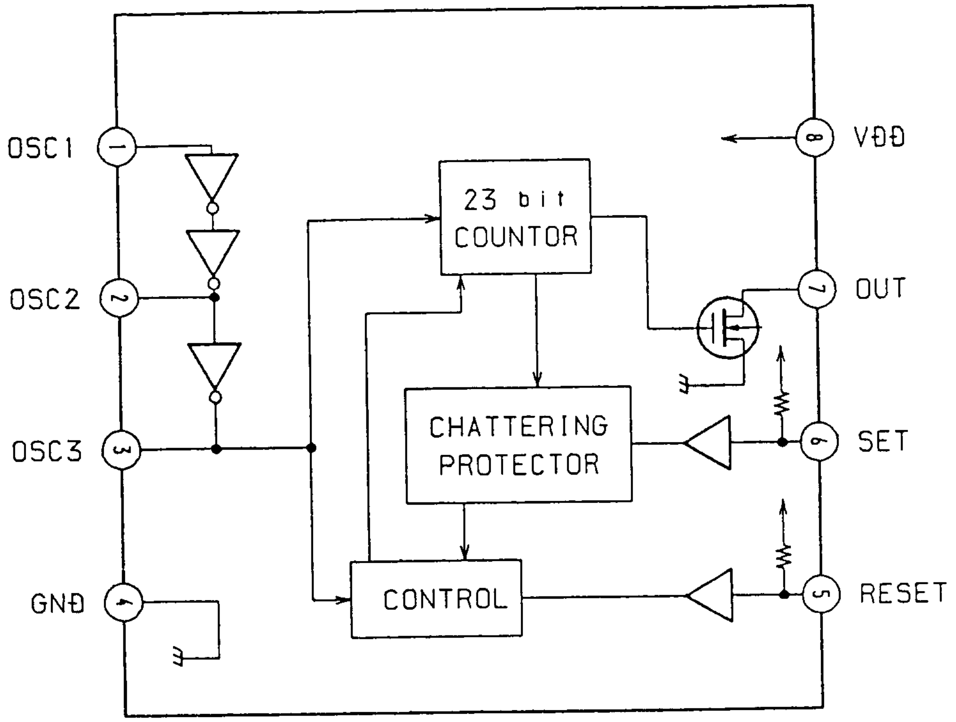
[LE BOARD]



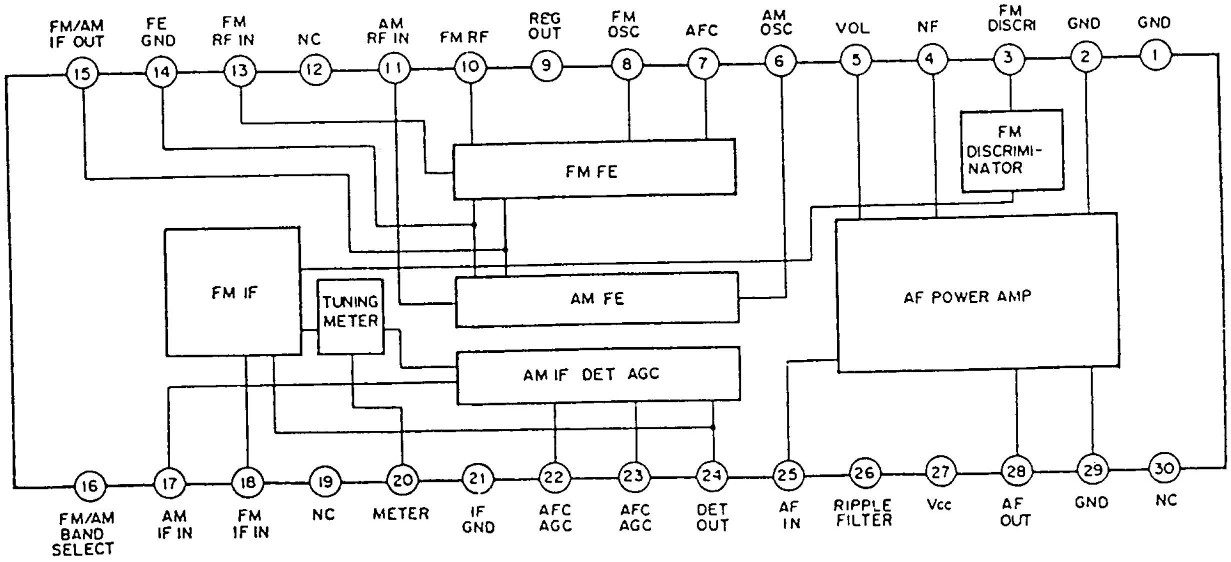
SECTION 4
DIAGRAMS

- **IC Block Diagrams**

IC2 BU2305F


OSC1
1
OSC2
2
OSC3
3
GND
4
VDD
8
OUT
7
SET
6
RESET
5
23 bit
COUNTOR
CHATTERING
PROTECTOR
CONTROL

IC21, 51 CXA1280N


FM/AM
IF OUT
15
FE
GND
14
FM
RF IN
13
NC
12
AM
RF IN
11
FM RF
10
REG
OUT
9
FM
OSC
8
AFC
7
AM
OSC
6
VOL
5
NF
4
FM
DISCRI
3
GND
2
GND
1
FM FE
FM
DISCRIMI-
NATOR
FM IF
TUNING
METER
AM FE
AF POWER AMP
AM IF DET AGC
16
FM/AM
BAND
SELECT
17
AM
IF IN
18
FM
IF IN
19
NC
20
METER
21
IF
GND
22
AFC
AGC
23
AFC
AGC
24
DET
OUT
25
AF
IN
26
RIPPLE
FILTER
27
Vcc
28
AF
OUT
29
GND
30
NC

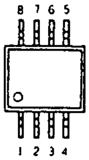
4-1. PRINTED WIRING BOARDS

• Semiconductor Location

Ref. No.	Location
D1	G-3
D2	E-2
D52	D-12
IC1	C-4
IC2	H-5
IC51	D-10
PH101	A-5, A-8
PH102	A-6, A-9
Q2	H-4
Q3	D-5
Q4	D-4
Q5	D-5
Q51	E-13
Q53	D-9
Q54	C-9
Q55	D-9

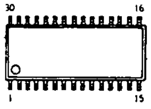
• Semiconductor Lead Layout

BU2305F



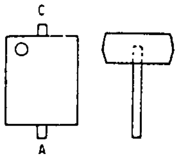
(TOP VIEW)

CXA1280N

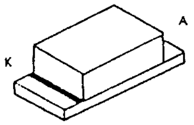


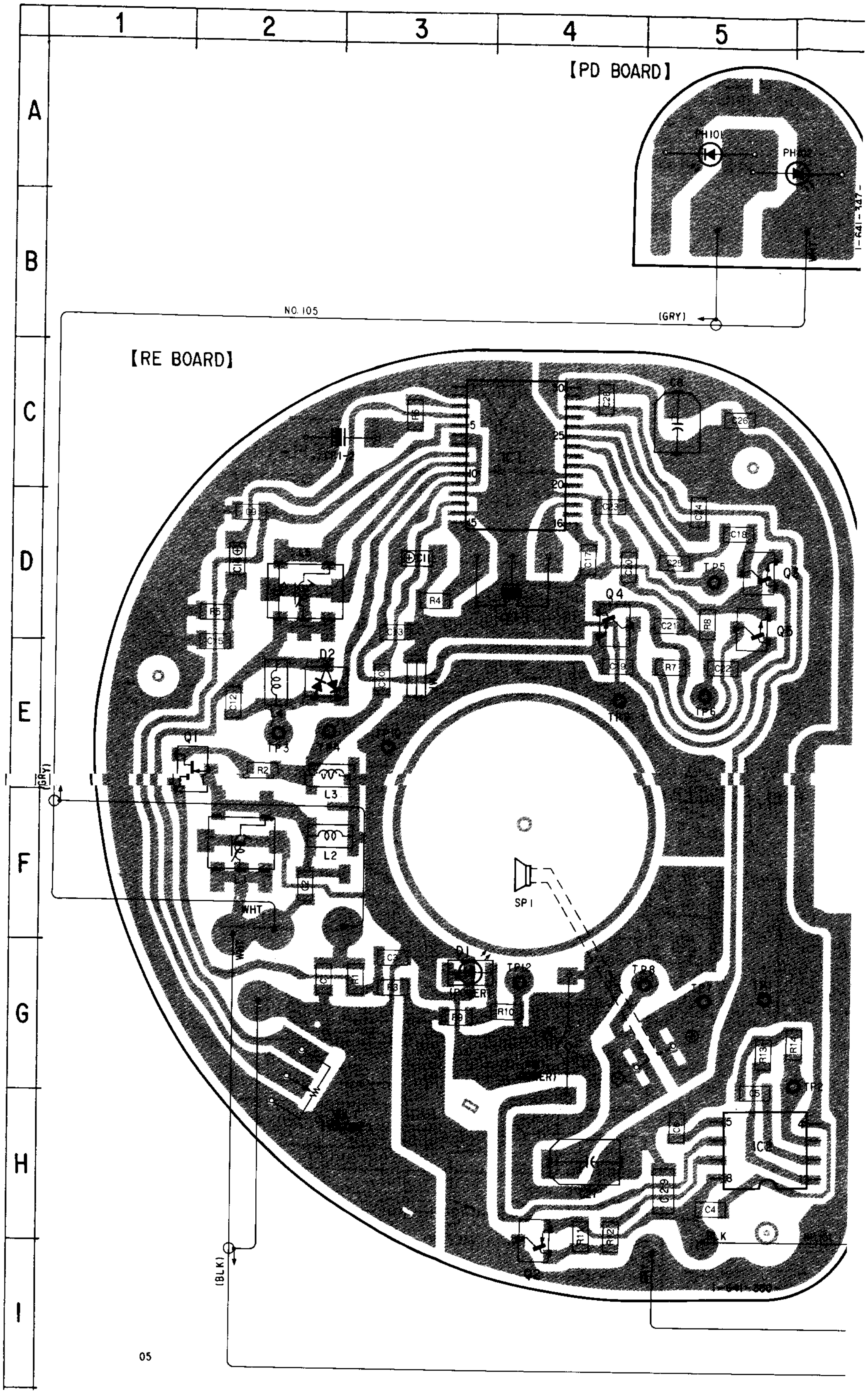
(Top view)

PP601-1



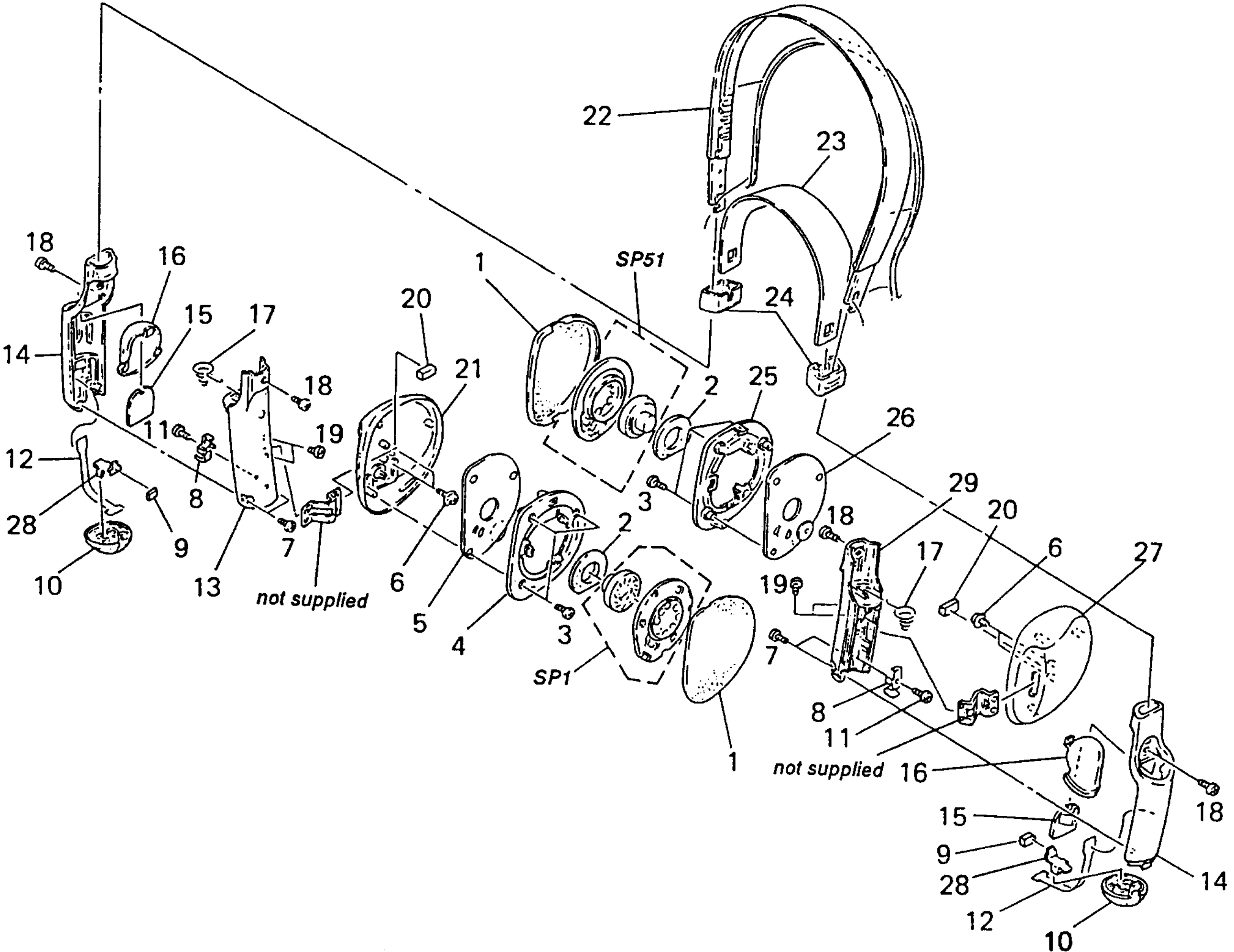
CL-150R-CD





1
2
3
4
5
A
B
C
D
E
F
G
H
I
[PD BOARD]
PH101
PH102
NO.105
(GRY)
[RE BOARD]
IC1
Q4
Q3
Q5
TP5
TP6
D2
TP3
Q1
R2
L3
L2
WHT
SP1
D1
TP12
TP8
IC2
(BLK)
05

Note:
- ○—— : parts extracted from the component side.
- ● : Through hole.
- ▨ : Pattern on the side which is seen.


SP51
not supplied
SP1
not supplied